



**US Army Corps  
of Engineers**  
Construction Engineering  
Research Laboratories



# **The Environmental Assessment and Management (TEAM) Guide**

*Rhode Island Supplement*  
*Revised March 1998*

Environmental assessments help determine compliance with current environmental regulations. The U.S. Air Force, U.S. Army, Defense Logistics Agency (DLA), and Corps of Engineers (Civil Works) have adopted environmental compliance programs that identify compliance problems before they are cited as violations by the U.S. Environmental Protection Agency.

Since 1984, the U.S. Army Construction Engineering Research Laboratories, in cooperation with numerous Department of Defense (DOD) components, has developed environmental compliance assessment checklist manuals. The Environmental Assessment and Management (TEAM) Guide was developed for use by all DOD components. Currently there are five participating DOD components: the Air Force, Air National Guard, Army, Civil Works, and DLA. These agencies have agreed to share the development and maintenance of this Guide.

The Guide combines Code of Federal Regulations and management practices into a series of checklists that show legal requirements and the specific operations or items to review. TEAM Guide is supplemented by DOD component-specific manuals detailing DOD component regulations and policies. The Rhode Island Supplement was developed to be used in conjunction with the TEAM Guide, using existing Rhode Island state environmental legislation and regulations as well as suggested management practices.

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## FOREWORD

This is USACERL Special Report 97/33. The report is based on the information available on Enflex Federal and State Regulations of March 1998.

The research was performed for the National Guard Bureau under Military Interdepartmental Purchase Request (MIPR) number ARE-003-98. The technical monitor was Ed Dulugosz, NGB-ARE-R.

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## NOTICE

This manual is intended as general guidance for personnel at Department of Defense (DOD) installations/CW facilities. It is not, nor is it intended to be, a complete treatise on environmental laws and regulations. Neither the U.S. Government nor any agency thereof, nor any of their employees, makes any warranty, expressed or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information contained herein. For any specific questions about, or interpretations of, the legal references herein, consult appropriate legal counsel.



## RHODE ISLAND SUPPLEMENT

This Rhode Island TEAM Supplement contains the protocols necessary for determining compliance with Rhode Island environmental rules and regulations. This manual is a supplement to the U.S. TEAM Guide; it does not replace it.

The following Rhode Island agencies issue regulations in the indicated areas:

- Coastal Resources Management Division
  - critical coastal areas
  - dock registration
  - marina certification
  - vessel-to-vessel transfer of petroleum
- Department of Administration
  - motor carrier safety
  - vehicle emission inspections
- Department of Environmental Management
  - air pollution control
  - batteries
  - drinking water
  - flood plain management
  - freshwater wetlands
  - groundwater
  - hazardous waste management
  - incinerators
  - infectious waste
  - municipal recycling
  - oil pollution control
  - pesticides
  - pollutant discharge elimination system
  - solid waste management
  - sewage land disposal
  - (sewage) sludge management
  - sewage treatment
  - underground injection control
  - underground storage tanks
  - waste water treatment
  - water pollution control
  - water supply
- Department of Health
  - asbestos exposure and abatement
  - drinking water quality
  - lead hazard reduction
  - lead inspections
  - lead poisoning screening
  - septage disposal
  - water quality criteria
  - workplace smoking

- Department of Labor: Asbestos exposure

## ACRONYMS

ACGIH	American Conference of Governmental Industrial Hygienists
AQMA	air quality management area
ASTM	American Society for Testing and Materials
AWWA	American Water Works Association
BACT	best available control technology
BOD	biochemical oxygen demand
BTEX	benzene, toluene, ethylbenzene, xylene
CAR	control area responsible party
CAS	Chemical Abstract Service
CEM	continuous emission monitoring
CERCLA	<i>Comprehensive Environmental Response, Compensation, and Liability Act</i>
CFC	chlorofluorocarbons
CWA	<i>Clean Water Act</i>
dB	decibel
dBA	decibels using A-weighting network
dBC	decibels using C-weighting network
DEQ	Department of Environmental Quality
ESA	<i>Endangered Species Act</i>
FIFRA	<i>Federal Insecticide, Fungicide, and Rodenticide Act</i>
GVWR	gross vehicle weight rating
HEPA Filter	high efficiency particulate air filter
HWM	hazardous waste management
IARC	International Agency for Research on Cancer
ICRU	International Commission on Radiological Units and Measurements
IUPAC	International Union of Pure and Applied Chemistry
LAER	lowest achievable emission rate
Ldn	day-night airport noise level
Leq	equivalent noise level
LPG	Liquefied Petroleum Gas
MC	medium curing
MCL	maximum contaminant level
MFL	million fibers per liter
MSDS	material safety data sheet
MSW	municipal-type solid waste
MSWLF	municipal solid waste landfill
MWC	municipal waste combustor
NBS	National Bureau of Standards
NEPA	<i>National Environmental Policy Act</i>
NFPA	National Fire Protection Association
NHPA	<i>National Historic Preservation Act</i>
NPDES	National Pollutant Discharge Elimination System
NTNCWS	nontransient noncommunity water system
OSHA	Occupational Safety and Health Administration
PAH	polycyclic aromatic hydrocarbons
PCB	polychlorinated biphenyl
PEL	permissible exposure limit
POTW	publicly owned treatment works
PUC	Public Utility Commission of Oregon

## ACRONYMS

RACT	reasonably available control technology
RC	rapid curing
RCRA	<i>Resource Conservation and Recovery Act</i>
RDF	refuse-derived fuel
REL	recommended exposure level
RGF	recirculating gravel filter
RVP	Reid vapor pressure
SAE	Society of Automotive Engineers
SARA	<i>Superfund Amendments and Reauthorization Act</i>
SC	slow curing
SDWA	<i>Safe Drinking Water Act</i>
SIC	Standard Industrial Classification
SMCL	secondary maximum contaminant level
SPCC	spill prevention countermeasure and control
SPL	sound pressure level
SWDA	<i>Solid Waste Disposal Act</i>
TLV	threshold limit value
TNTC	too numerous to count
TPH	total petroleum hydrocarbons
TRI	toxic release inventory
TSCA	<i>Toxic Substance Control Act</i>
TSD	treatment, storage, and disposal
TSDF	treatment, storage, and disposal facility
TSP	total suspended particulate
TSS	total suspended solids
TTHM	total trihalomethane
UL	Underwriters Laboratory
UFC	Uniform Fire Code
USEPA	United States Environmental Protection Agency
UST	underground storage tank
VOC	volatile organic compound
VOL	volatile organic liquid
WPCF	Water Pollution Control Facilities

## COMMONLY USED ABBREVIATIONS

bbl	barrel	mg	milligram
Btu	British thermal unit	mi	mile
C	Celsius	min	minute
cfs	cubic feet per second	MJ	megajoule
cm	centimeter	mL	milliliter
cm <sup>2</sup>	square centimeter	mm	millimeter
dscf	dry standard cubic foot	mo	month
dscm	dry standard cubic meter	mrem	millirem
F	Fahrenheit	MW	megawatt
ft	foot	ng	nanogram
ft <sup>2</sup>	square feet	NTU	nephelometric turbidity unit
ft <sup>3</sup>	cubic feet	oz	ounce
g	gram	pCi	picoCurie
gal	gallon	ppm	part per million
gJ	gigajoule	ppmv	part per million by volume
gr	grain	ppmw	part per million by weight
h	hour	psi	pound per square inch
ha	hectare	psia	pounds per square inch absolute
hp	horsepower	psig	pounds per square inch gauge
in.	inch	qt	quart
J	Joule	s	second
kg	kilogram	scf	standard cubic foot
km	kilometer	scm	standard cubic meter
kPa	kilopascals	sdcf	standard dry cubic foot
L	liter	sdcn	standard dry cubic meter
lb	pound	TU	turbidity unit
m	meter	V	volt
m <sup>3</sup>	cubic meter	yd	yard
MBtu	million British thermal units	yd <sup>2</sup>	square yard
meq	milligram equivalent	yr	year
CO	carbon monoxide	NO <sub>2</sub>	nitrogen dioxide
CO <sub>2</sub>	carbon dioxide	NO <sub>x</sub>	nitrogen oxides
Hg	mercury	SO <sub>2</sub>	sulfur dioxide



## METRIC CONVERSION TABLE

The following conversion table may be used throughout this manual to make approximate conversions between U.S. units and metric units.

1 in.	=	2.54 cm or 25.4 mm
1 ft	=	0.3048 m
1 ft <sup>2</sup>	=	0.093 m <sup>2</sup>
1 ft <sup>3</sup>	=	0.028 m <sup>3</sup>
1 psi	=	6.895 kPa
1 lb	=	0.454 kg
1 mi	=	1.61 km
1 gal	=	3.78 L
°F	=	(°C + 17.78) x 1.8
°C	=	0.55 (°F - 32)
1 yd	=	0.9144 m
1 Btu	=	4.184 kJ
1 acre	=	4046.9 m <sup>2</sup>
1 acre	=	0.405 hectare



## SECTION 1

### AIR EMISSIONS MANAGEMENT

Rhode Island Supplement, March 1998

This section covers the state requirements for Air Emissions Management and is intended to supplement the U.S. TEAM Guide. Refer to the U.S. TEAM Guide and the DOD Component Supplements for Federal, DOD, and service-specific requirements.

The Division hereby adopts and incorporates by reference the provisions of 40 CFR 72, as in effect on 18 May 1995, for purposes of implementing an acid rain program that meets the requirements of Title IV of the Act. The term permitting authority shall mean the Division and the term Administrator shall mean the Administrator of the USEPA.

If the provisions or requirements of 40 CFR 72 conflict with or are not included in this regulation, the 40 CFR 72 provisions and requirements shall apply and take precedence (CRIR 12 031 029(29.14)).

#### Definitions

- *Acceptable Ambient Level* - the maximum allowable ambient air concentration of a listed toxic air contaminant contributed by a stationary source, at or beyond that facility's property line, as delineated in Tables I and II (CRIR 12 031 022(22.1.3)).
- *Act* - the Federal Clean Air Act, as amended, 42 U.S.C. 7401, et. seq. (CRIR 12 031 029(29.1.1)).
- *Actual Emissions* - the actual rate of emissions of a pollutant from an emissions unit, as determined in accordance with Subsections (a) through (c) below (CRIR 12 031 029(29.1.2)):
  1. In general, actual emissions as of a particular date shall equal the average rate, in tons per year, at which the unit actually emitted the pollutant during a two-year period which precedes the particular date and which is representative of normal source operation. The Director shall allow the use of a different time period upon a determination that it is more representative of normal source operation. Actual emissions shall be calculated using the unit's actual operating hours, production rates, and types of materials processed, stored, or combusted during the selected time period.
  2. The Director may presume that source specific allowable emissions for the unit are equivalent to actual emissions of the unit.
  3. For any emissions unit which has not begun normal operations on the particular date, actual emissions shall equal the potential to emit of the unit on that date.
- *Actual Heat Input* - the gross heat release potential based upon the actual Btu content of the fossil fuel being burned and the rate at which it is burned (CRIR 12 035 001(1)).
- *Aerodynamic Downwash* - the rapid descent of a plume to ground level with little dilution and dispersion due to alteration of background air flow characteristics caused by the presence of buildings or other obstacles in the vicinity of the emission point (CRIR 12 031 020(20.1.1)).
- *Affected Source* - has the meaning given to it in the regulations promulgated under Title IV of the Act (CRIR 12 031 029(29.1.3)).
- *Affected States* - any state that (CRIR 12 031 029(29.1.4)):
  1. is contiguous to Rhode Island and whose air quality may be affected
  2. is located within 50 mi of a facility subject to the operating permit program in Rhode Island.

- *Affected Unit* - has the meaning given to it in the regulations promulgated under Title IV of the Act (CRIR 12 031 029(29.1.5)).
- *Air Blanket* - the layer of air inside a solvent cleaning machine above the solvent/air interface. The centroid of the air blanket is equidistant from the sides of the machine (CRIR 12 031 036(36.1.1)).
- *Air Contaminant* - soot, cinders, ashes, any dust, fumes, gas, mist, smoke, vapor, odor, toxic or radioactive material, particulate matter or any combination thereof (CRIR 12 035 001(2)).
- *Air-Dried Coating* - a coating that is dried by the use of air or forced warm air at temperatures up to 90 °C (194 F) (CRIR 12 031 019(19.1.5)).
- *Air Pollution* - presence in the outdoor atmosphere of one or more air contaminants in sufficient quantities, which either alone or in connection with other emissions, by reason of their concentration and duration may be injurious to human, plant or animal life, or cause damage to property or inconvenience to property owners, or create a disagreeable or unnatural odor or obscure visibility or which in any way interferes with the enjoyment of life and property (CRIR 12 035 001(3)).
- *Air Pollution Control System* - a system, device, or equipment designed and installed primarily for the purpose of reducing or eliminating the emission of air contaminants to the atmosphere (CRIR 12 031 009(9.1.2)).
- *Allowable Emissions* - the emission rate of a stationary source calculated using the maximum rated capacity of the source unless the source is subject to federally enforceable limits which restrict the operating rate or hours of operation, or both and the most stringent of the following (CRIR 12 031 009(9.1.3)):
  1. applicable standards as set forth in 40 CFR Parts 60 and 61 (New Source Performance Standards and National Emission Standards for Hazardous Air Pollutants)
  2. any applicable State Implementation Plan emission limitations, including those with a future compliance date
  3. the emissions rate specified as a Federally enforceable permit condition, including those with a future compliance date.
- *Alternative Fuel* - any materials, other than fuel oil, natural gas, coal or wood residue that is burned for the purpose of creating useful heat. Types of alternative fuels include, but are not limited to waste oil and hazardous waste. This definition does not include refuse derived fuel (RDF) (CRIR 12 031 020(20.1.2)).
- *Ambient Air* - that portion of the atmosphere, external to buildings, to which the general public has access (CRIR 12 030 002(1)(a)).
- *Annual Solvent Usage* - the amount of new or purchased reprocessed solvent added to any degreaser or dryer at a facility during the previous calendar year (CRIR 12 031 022(22.1.8)).
- *Anthracite* - a hard, black lustrous coal containing a high percentage of fixed carbon and a low percentage of volatile matter (see A Dictionary of Mining, Mineral, and Related Terms, Bureau of Mines, U.S. Department of the Interior, 1968) (CRIR 12 031 002(2.1.2)).
- *Applicable Requirement* - all of the following as they apply to emissions units in a stationary source (including requirements that have been promulgated or approved by USEPA through rulemaking at the time of issuance but have future-effective compliance dates) (CRIR 12 031 029(29.1.6)):
  1. any air pollution control regulation or other requirement provided for in the Rhode Island State Implementation Plan approved or promulgated by USEPA through rulemaking under Title I of the Act that implements the relevant requirements of the Act, including any revisions to that plan promulgated in 40 CFR 52

2. any term or condition of any preconstruction permits issued pursuant to Rhode Island Air Pollution Control Regulation No. 9 or issued pursuant to regulations approved or promulgated through rulemaking under Title I of the Act, including Parts C or D
  3. any standard or other requirement under Section 111 of the Act, including Section 111(d)
  4. any standard or other requirement under Section 112 of the Act, including any requirement concerning accident prevention under Section 112(r)(7) of the Act
  5. any standard or other requirement of the acid rain program under Title IV of the Act or the regulations promulgated thereunder
  6. any requirements established pursuant to Section 504(b) or Section 114(a)(3) of the Act
  7. any standard or other requirement governing solid waste incineration, under Section 129 of the Act
  8. any standard or other requirement for consumer and commercial products, under Section 183(e) of the Act
  9. any standard or other requirement for tank vessels, under Section 183(f) of the Act
  10. any standard or other requirement of the program to control air pollution from outer continental shelf sources, under Section 328 of the Act
  11. any standard or other requirement of the regulations promulgated to protect stratospheric ozone under Title VI of the Act, unless the Administrator has determined that such requirements need not be contained in a Title V permit
  12. any national ambient air quality standard or increment or visibility requirement under Part C of Title I of the Act, but only as it would apply to temporary stationary sources permitted pursuant to Section 29.8 of this regulation
  13. any air pollution control regulation adopted by the Division pursuant to Chapter 23-23 of the General Laws of Rhode Island, 1956, as amended.
- *Architectural Coating* - any coating which is applied to stationary structures and their appurtenances, mobile homes, pavements or curbs (CRIR 12 031 033(33.1.1)).
  - *Area Source* - any stationary source of hazardous air pollutants that is not a major source as defined in 29.1.20(a)(CRIR 12 031 029(29.1.7)).
  - *Asphalt* - a dark brown cementitious material which is solid, semisolid, or liquid in consistence and in which the predominating constituents are bitumens that occur in nature or which are obtained as residue in refining petroleum (CRIR 12 031 025(25.1.1)).
  - *Attainment or Unclassifiable Area* - for any air pollutant, an area which is not designated as a nonattainment area (CRIR 12 031 009(9.1.4)).
  - *Automated Parts Handling System* - a mechanical device that carries all parts and parts baskets through the cleaning cycle at a controlled speed from the initial loading of contaminated or wet parts through the removal of the cleaned or dried parts. Automated parts handling systems include, but are not limited to, hoists and conveyors (CRIR 12 031 036(36.1.2)).
  - *Azeotropic Device* - an air pollution control device wherein the dryer exhaust from a dry cleaning machine is routed to a tank where the perchloroethylene vapor is conditioned with water to form a low boiling point perchloroethylene/water vapor azeotrope. The conditioned perchloroethylene/water vapor stream is then ducted back to the dryer to increase perchloroethylene vaporization from the garments. The perchloroethylene vapor is then condensed by the dryer's cooling coils. The air stream is cycled between the azeotropic tank and the dryer for 4 - 6 min (CRIR 12 031 022(22.1.10)).
  - *Baked, Heat Cured, or Heat Polymerized* - coatings and other organic solvent containing materials which (CRIR 12 031 015(15.1.5)):
    1. have been heated in devices in which the air temperature exceeds 175 F (80 C)
    2. have become insoluble in solvents in which they were soluble before being subjected to heat.

- *Baseline Area* - the state of Rhode Island (CRIR 12 031 009(9.5.1(a))).
- *Baseline Concentration* - that ambient concentration level which exists in the baseline area at the time of the applicable minor source baseline date. A baseline concentration is determined for each pollutant for which a baseline date is established and shall include the actual emissions representative of sources in existence on the applicable minor source baseline date. The following will not be included in the baseline concentration but will affect increment consumption (CRIR 12 031 009(9.5.1(b))):
  1. actual emissions from any major stationary source on which construction commenced after the major source baseline date
  2. actual emissions increases and decreases at any stationary source occurring after the minor source baseline date.
- *Batch Cleaning* - the process in which individual parts or a set of parts move through an entire cleaning cycle before new parts are introduced into the solvent cleaning machine (CRIR 12 031 036(36.1.3)).
- *Begin Actual Construction* - initiation of physical onsite construction activities on an emissions unit which are of a permanent nature. Such activities include, but are not limited to, installing building supports and foundations, laying underground pipework, and constructing permanent storage structures. With respect to a change in the method of operation, this term refers to those onsite activities, other than preparatory activities, which mark the initiation of the change (CRIR 12 031 009(9.1.5)).
- *Best Available Control Technology* - an emissions limitation (including a visible emissions standard) based on the maximum degree of reduction for each air pollutant which would be emitted from any proposed stationary source or modification which the Director, on a case-by-case basis, taking into account energy, environmental and economic impacts and other costs, determines that it is achievable for such stationary source or modification through application of production processes or available methods, systems and techniques, including fuel cleaning, clean fuels, or treatment or innovative fuel combustion techniques for control of such pollutant. In no event shall application of best available control technology result in emissions of any pollutant which would exceed the emissions allowed by an applicable standard under 40 CFR Parts 60 and 61. If the Director determines that technological or economic limitations on the application of measurement methodology to a particular emissions unit would make the imposition of air emissions standards infeasible, a design, equipment, work practice, operational standard or combination thereof, may be prescribed instead to satisfy the requirement of best available control technology. Such standard shall to the degree possible set forth the emission reduction achievable by implementation of such design, equipment, work practice or operation and shall provide for compliance by means which achieve equivalent results (CRIR 12 031 009(9.1.6)).
- *Building, Structure, Facility, or Installation* - all of the pollutant-emitting activities which belong to the same industrial grouping are located on one or more contiguous or adjacent properties and are under the control of the same person (or persons under common control) except the activities of any vessel. Pollutant-emitting activities shall be considered as part of the same industrial grouping if they belong to the same major group (i.e., which have the same two-digit code) as described in the Standard Industrial Classification Manual, 1972, as amended by the 1977 Supplement (U.S. Government Printing Office Stock Nos. 4101- 0066 and 003-005-00176-0, respectively) (CRIR 12 031 009(9.5.1(c))).
- *Calculated Acceptable Ambient Level* - the maximum allowable air concentration of an air contaminant, excluding listed toxic air contaminants and national ambient air quality standards, contributed by a stationary source, at or beyond the facility's property line calculated by the method in the Rhode Island Air Toxics Guidelines (CRIR 12 031 009(9.1.8)).
- *Carbon Adsorber* - a bed of activated carbon which adsorbs solvent from an air-solvent gas-vapor stream (CRIR 12 031 036(36.1.4)).

- *Certifying Individual* - the individual responsible for the completion and certification of the emission statement (e.g., officer of the company) and who will take legal responsibility for the emission statement's accuracy (CRIR 12 031 014(14.1.2)).
- *CFR* - the Code of Federal Regulations (CRIR 12 031 027(27.1.3)).
- *Class II Hardboard Paneling Finish* - finishes that meet the specifications of Voluntary Product Standard PS-59-73 as approved by the American National Standards Institute (CRIR 12 031 019(19.1.6)).
- *Clean Liquid Solvent* - fresh unused solvent, recycled solvent, or used solvent that has been cleaned of contaminants (e.g., skimmed of oils or sludge and strained of metal chips) (CRIR 12 031 036(36.1.5)).
- *Cleaning Capacity* - for a cleaning machine without a solvent/air interface, the maximum volume of parts that can be cleaned at one time. In most cases, the cleaning capacity is equal to the volume (length times width times height) of the cleaning chamber (CRIR 12 031 036(36.1.6)).
- *Clear Coating* - a coating that:
  1. either lacks color and opacity or is transparent
  2. uses the surface to which it is applied as a reflective base or undertone color (CRIR 12 031 019(19.1.7)).
- *Coating Applicator* - a device, mechanism, or apparatus used to apply a surface coating. Common types of application techniques include knife, roll, spray or dip (CRIR 12 031 019(19.1.8)).
- *Coating Line* - an operation or manufacturing process or device which may be comprised of one or more coating applicators, one or more flashoff areas and/or one or more ovens wherein a surface coating is dried and/or cured (CRIR 12 031 019(19.1.9)).
- *Coke* - bituminous coal from which the volatile constituents have been driven off by heat, so that the fixed carbon and the ash are fused together (see A Dictionary of Mining, Mineral, and Related Terms, Bureau of Mines, U.S. Department of the Interior, 1968) (CRIR 12 031 002(2.1.1)).
- *Cold Cleaning* - an organic solvent cleaning process which cleans and removes contaminants or water from surfaces by spraying, brushing, flushing, immersing, or drying parts. Cleaning machines that use heated, nonboiling solvent to clean the parts are classified as cold cleaning machines. Wipe cleaning is not included in this definition (CRIR 12 031 036(36.1.7)).
- *Combined Cycle Gas Turbine* - any stationary gas turbine which recovers heat from the gas turbine exhaust gases to heat water or generate steam (CRIR 12 031 027(27.1.4)).
- *Combustion Turbine* - any simple cycle gas turbine or any combined cycle gas turbine including the duct burner portion thereof (CRIR 12 031 027(27.1.5)).
- *Commence* - applied to construction of a stationary source or modification means that the owner or operator has all the necessary preconstruction approvals or permits and either has (CRIR 12 031 009(9.1.9)):
  1. begun or caused to begin, a continuous program of actual onsite construction of the source, to be completed within a reasonable time
  2. entered into binding agreements or contractual obligations, which cannot be canceled or modified without substantial loss to the owner or operator, to undertake a program of actual construction of the source to be completed within a reasonable time.
- *Commercially Available Solvent* - any organic solvent or mixture of organic solvents that may be obtained or formulated in the quantities required by a user as of the effective date of this regulation (CRIR 12 031 015(15.1.8)).

- *Complete* - in reference to an application for a permit, that the application contains all the information necessary for processing the application. Designating an application complete for purposes of permit processing does not preclude the Director from requesting or accepting any additional information (CRIR 12 031 009(9.1.10)).
- *Construction* - any physical change or change in the method of operation (including fabricating, erecting, locating, modification or demolition of an emissions unit) which would result in a change in actual emissions (CRIR 12 031 009(9.1.11)).
- *Cutback Asphalt* - asphalt cement that has been liquefied by blending with petroleum solvents (dilutents) (CRIR 12 031 025(25.1.3)).
- *Dense-Graded Aggregate* - a dense aggregate containing sand, stone and fines which has small void spaces, resulting in a compacted mixture (CRIR 12 031 025(25.1.4)).
- *Department* - the Rhode Island Department of Environmental Management (CRIR 12 031 034(34.1.5)).
- *Designated Representative* - a responsible person or official authorized by the owner or operator of a unit to represent the owner or operator in matters pertaining to the holding, transfer, or disposition of allowances allocated to a unit, and the submission of and compliance with permits, permit applications, and compliance plans for the unit under acid rain requirements of Title IV of the Act and regulations promulgated thereunder (CRIR 12 031 029(29.1.8)).
- *Director* - the Director of the Department of Health or any subordinate or subordinates to whom he has delegated the powers and duties vested in him by Title 23, Chapter 25 of the General Laws of Rhode Island, as amended (CRIR 12 035 001(4)).
- *Distillate Oil* - fuel oil that complies with the specifications for fuel oil numbers 1 or 2, as defined by the American Society for Testing and Materials in ASTM D396- 78, Standard Specification for Fuel Oils (CRIR 12 031 027(27.1.6)).
- *Division* - the Division of Air Resources of the Rhode Island Department of Environmental Management (CRIR 12 031 029(29.1.9)).
- *Draft Permit* - the version of a permit for which the Division offers public participation or affected state review (CRIR 12 031 029(29.1.10)).
- *Drum* - any cylindrical metal shipping container of 13 to 110 gal capacity (CRIR 12 031 019(19.1.10)).
- *Dry Sludge* - the total solids residue determined in accordance with 224 G. Method for Solid and Semisolid Samples, Standard Methods for the Examination of Water and Wastewater, Thirteenth Edition, American Public Health Association, Inc., New York, New York, 1971, pp. 539- 541, as amended, such that (CRIR 12 031 012(12.1.6)):
  1. evaporating dishes shall be ignited to at least 103 °C rather than the 550 °C specified in step 3(a)(1)
  2. determination of volatile residue may be deleted.
- *Dwell* - the technique of holding parts within the freeboard zone but above the vapor zone of the solvent cleaning machine. Dwell is used after cleaning to allow solvent to drain from parts or parts baskets back into the solvent cleaning machine (CRIR 12 031 036(36.1.8)).
- *Dwell Time* - the amount of time that a part dwells in the freeboard zone of the solvent cleaning machine (CRIR 12 031 036(36.1.9)).
- *Emergency Standby Internal Combustion Engine* - an internal combustion engine operated only as a mechanical or electrical power source for a stationary source when the primary power source has been rendered inoperable.

This does not include power interruptions pursuant to an interruptible power service agreement (CRIR 12 031 027(27.1.8)).

- *Emission* - the release or discharge, directly or indirectly, of one or more air pollutants into the air (CRIR 12 031 036(36.1.10)).
- *Emission Baseline* - a level of emissions calculated by multiplying two factors (CRIR 12 031 019(19.1.11)):
  1. the lowest of the source's actual or allowable emission rate in emissions per unit of production
  2. the source's actual capacity utilization, or units of production, over some representative time period. Generally, the time period is the preceding 2 yr average unless the source can demonstrate that those years were not representative of historical production.
- *Emission Reduction Credits and ERC* - credits given for emission reductions beyond those required by the Federally enforceable State Implementation Plan (SIP) or an enforceable document. Emission Reduction Credits must be enforceable, quantifiable, permanent, and surplus (CRIR 12 031 015(15.1.10)).
- *Emissions Allowable Under the Permit* - a Federally enforceable permit term or condition determined at issuance to be required by an applicable requirement that establishes an emissions limit (including a work practice standard) or a federally enforceable emissions cap that the stationary source has assumed to avoid an applicable requirement to which the stationary source would otherwise be subject (CRIR 12 031 029(29.1.11)).
- *Emissions Cap* - any emission limitation or physical or operational limitations, imposed in a Federally enforceable document, that establishes the maximum quantity of emissions which may be released from a stationary source (CRIR 12 031 029(29.1.12)).
- *Emissions Trading* - the averaging of emissions of a given air pollutant from two or more emission units within a stationary source for the purpose of complying with a federally enforceable emissions cap or an applicable requirement (CRIR 12 031 029(29.1.14)).
- *Emissions Unit* -
  1. any part of a stationary source that emits or would have the potential to emit any air pollutant (including fugitive emissions) (CRIR 12 031 009) [Added March 1998]
  2. any part or activity of a stationary source that emits or has the potential to emit any regulated air pollutant or any pollutant listed under Section 112(b) of the Act. This term is not meant to alter or affect the definition of the term "unit" for purposes of Title IV of the Act (CRIR 12 031 029(29.1.13)).
- *Emulsified Asphalt* - an emulsion of asphalt cement and water that contains a small amount of an emulsifying agent (CRIR 12 031 025(25.1.5)).
- *Enforceable Document* - a permit issued under the requirements of Air Pollution Control Regulation No. 9, an approval issued under this regulation, or a consent agreement (CRIR 12 031 027(27.1.9)).
- *EPA* - the United States Environmental Protection Agency (CRIR 12 031 027(27.1.7)).
- *EPA or the Administrator* - the Administrator of the USEPA or his designee (CRIR 12 031 029(29.1.15)).
- *Equivalent Control* - a control system that may be substituted for the required control system(s). The stationary source applying to use an equivalent control must demonstrate to the satisfaction of the Division and USEPA that the emission reductions achieved are equal to or greater than the emission reductions required by the regulation. Appropriate test methods or other replicable criteria in accordance with DEM and USEPA guidance must be used to demonstrate equivalence (CRIR 12 031 027(27.1.10)).
- *Equivalent Method* - a method of sampling and analyzing the ambient air for an air pollutant that has been designated as an equivalent method in accordance with 40 CFR 53; it does not include a method for which an

equivalent method designation has been canceled in accordance with 40 CFR 53.11 or 53.16 (CRIR 12 030 002(1)(c)).

- *Existing Source* - a stationary source which is in existence on the effective date of this regulation (CRIR 12 031 022(22.1.7)).
- *Extreme Performance Coatings* - coatings intended for exposure to any of the following; outdoor weather conditions all of the time, temperatures frequently above 95 °C (203 °F), detergents, abrasive and scouring agents, solvents, corrosive atmospheres, or similar environmental conditions (CRIR 12 031 019(19.1.13)).
- *Facility* - all pollutant-emitting activities that belong to the same industrial grouping, are located on one or more contiguous or adjacent properties, and are under the control of the same person (or persons under common control). Pollutant-emitting activities shall be considered as part of the same industrial grouping if they have the same two digit code as described in the Standard Industrial Classification Manual, 1972, as amended by the 1977 Supplement (U.S. Government Printing Office Stock Nos. 4101- 0066 and 003-005-00176-0, respectively) (CRIR 12 031 014(14.1.3)).
- *Federally Enforceable* - all limitations and conditions which are enforceable by the Administrator of the USEPA including those requirements developed pursuant to 40 CFR Parts 60 and 61 (New Source Performance Standards and National Emission Standards for Hazardous Air Pollutants), requirements within the Rhode Island State Implementation Plan, those requirements in operating permits issued pursuant to 40 CFR Part 71 or under these regulations, any requirements established under Air Pollution Control Regulation No. 9, to the extent those requirements are within the Rhode Island State Implementation Plan, and those requirements in emissions caps issued pursuant to Subsection 29.3 (CRIR 12 031 029(29.1.16)).
- *Final Permit* - the version of an operating permit issued by the Division that has completed all review procedures (CRIR 12 031 029(29.1.17)).
- *Fixed Capital Cost* - the capital needed to provide all the depreciable components (CRIR 12 031 009(9.1.14)).
- *Flexographic Printing* - the application of words, designs, and/or pictures to a substrate by means of a roll-printing technique in which the pattern to be applied is raised above the printing roll and the image carrier is made of rubber or other elastomeric materials (CRIR 12 031 020(21.1.6)).
- *Fossil Fuel* - natural gas, petroleum, coal, and any form of solid, liquid or gaseous fuel derived from such materials for the purpose of creating useful heat (CRIR 12 035 001(5)).
- *Fossil Fuel, Fired Steam or Hot Water Generating Unit* - a furnace or boiler used in the process of burning fossil fuel for the purpose of producing steam or hot water by heat transfer (CRIR 12 035 001(6)).
- *Freeboard Height* - for a batch cleaning machine, the distance from the solvent/air interface, measured during the idling mode, to the top of the cleaning machine; for an in-line cleaning machine, it is the distance from the solvent/air interface to the bottom of the entrance or exit opening, whichever is lower, as measured during the idling mode (CRIR 12 031 036(36.1.11)).
- *Freeboard Ratio* - the freeboard height divided by the width of the smaller interior dimension of the organic solvent cleaning machine (CRIR 12 031 036(36.1.12)).
- *Freeboard Zone* - for a batch cleaning machine, the zone within the solvent cleaning machine that extends from the solvent/air interface to the top of the solvent cleaning machine; for an in-line cleaning machine, it is the zone within the solvent cleaning machine that extends from the solvent/air interface to the bottom of the entrance or exit opening, whichever is lower (CRIR 12 031 036(36.1.13)).

- *Fuel-Burning Device* - any device engineered to burn fuel for the primary purpose, as determined by the Director, of producing steam, heat, or power (CRIR 12 031 008) [Added March 1998].
- *Fuel-Burning Equipment* - any furnace, boiler, apparatus, stack, and all appurtenances thereto used in the process of burning fuel for the primary purpose of producing heat or power (CRIR 12 031 020(20.1.3)).
- *Fuel Oil* - any virgin distillate oil, virgin residual oil or a blend of these (CRIR 12 031 020(20.1.4)).
- *Fugitive Emissions* - those emissions which could not reasonably pass through a stack, chimney, vent or other functionally equivalent opening (CRIR 12 031 009(9.1.15)).
- *General Permit* - an operating permit that meets the requirements of Subsection 29.7 (CRIR 12 031 029(29.1.19)).
- *Good Engineering Practice* - with respect to stack heights, the height necessary to ensure that emissions from the stack do not result in excessive concentrations of any air pollutant in the immediate vicinity of the source as a result of aerodynamic downwash, eddies, and wakes which may be created by the source itself, nearby structures or nearby terrain obstacles as calculated according to the Rhode Island Guideline on Air Quality Modeling (CRIR 12 031 009(9.1.16)).
- *Halogenated Organic Compound and HOC* - the following compounds (CRIR 12 031 033(33.1.3)):
  1. CFC-11 (trichlorofluoromethane)
  2. CFC-12 (dichlorodifluoromethane)
  3. CFC-113 (1,1,1-trichloro 2,2,2-trifluoroethane)
  4. CFC-114 (1,2-dichloro 1,1,2,2-tetrafluoroethane)
  5. CFC-115 (chloropentafluoroethane)
  6. HCFC-22 (chlorodifluoromethane)
  7. HCFC-123 (1,1,1-trifluoro 2,2-dichloroethane)
  8. HCFC-124 (2-chloro 1,1,1,2-tetrafluoroethane)
  9. HCFC-141b (1,1-dichloro 1-fluoroethane)
  10. HCFC-142b (1-chloro 1,1-difluoroethane)
  11. methyl chloroform (1,1,1-trichloroethane)
  12. methylene chloride (dichloromethane).
- *Hardboard* - a panel manufactured primarily from inter-felted ligno-cellulosic fibers that are consolidated under heat and pressure in a hot press (CRIR 12 031 019(19.1.15)).
- *Hardwood Plywood* - a plywood whose surface layer is a veneer of hardwood (CRIR 12 031 019(19.1.16)).
- *Hazardous Air Pollutant* -
  1. any air pollutant listed pursuant to Subsection 112(b) of the Clean Air Act as amended in 1990 (see Appendix 1-9) (CRIR 12 031 009(9.1.17))
  2. any pollutant which has been listed pursuant to Section 112(b) of the Clean Air Act Amendments of 1990 or which is listed in Table 1 of Rhode Island Air Pollution Control Regulation No. 22 (CRIR 12 031 036(36.1.15)).
- *Hazardous Material* - any material or combination of materials of a solid, liquid, contained gaseous, or semisolid from that because of quantity, concentration, or physical, chemical or other characteristics may (CRIR 12 031 012(12.1.16)):
  1. cause or significantly contribute to an increase in mortality or an increase in serious irreversible or incapacitating reversible illness
  2. pose a substantial present or potential hazard to human health or the environment.

Such materials include, but are not limited to, those that are toxic, corrosive, flammable, irritants, strong sensitizers, substances that are assimilated or concentrated in and are detrimental to tissue or that generate pressure through decomposition or chemical reaction.

- *Hazardous Waste* - any waste or combination of wastes of a solid, liquid, gaseous or semisolid form which is defined as a hazardous waste in the Rhode Island rules and regulations for Hazardous Waste, Generation, Transportation, Treatment, Storage and Disposal (CRIR 12 031 020(20.1.5)).
- *Hazardous Waste Disposal Facility* - real and personal property acquired, constructed or operated for the purpose of the disposal of hazardous waste (CRIR 12 031 004(4.1.3)).
- *Heat Input Capacity* - the manufacturer's or designer's guaranteed maximum rate of heat input, whichever is greater (CRIR 12 035 001(7)).
- *High Sulfur Fuel* - any fuel except fuel oil containing more than 0.55 lb of sulfur per million British Thermal Unit heat release potential or fuel oil containing more than 1.0 percent sulfur by weight (CRIR 12 031 008(8.1.2)).
- *High Temperature Industrial Maintenance Coating* - an industrial maintenance coating formulated specifically to withstand temperatures in excess of 400 °F (CRIR 12 031 033(33.1.5)).
- *Highly Photochemically Reactive Solvent* - an organic solvent with:
  1. more than 20 percent of its volume consisting of any one compound or combination of compounds classified into one or more of the following groups.
  2. the volume of any one constituent compound or the combined volume of all constituent compounds classified into a single group exceeding the maximum volume percentage for that group:
    - a. Group 1 - A combination of hydrocarbons, alcohols, aldehydes, esters, ethers or ketones having an olefinic or cyclo-olefinic type of unsaturation: 5 percent of the total volume of solvent
    - b. Group 2 - A combination of aromatic compounds with eight or more carbon atoms to the molecule except ethylbenzene: 8 percent of the total volume of solvent.
    - c. Group 3 - A combination of ethylbenzene, ketones having branched hydrocarbon structures, trichloroethylene or toluene: 20 percent of the total volume of solvent.

When any organic solvent or any constituent of an organic solvent may be classified from its chemical structure into more than one of the above groups of organic compounds, it shall be considered as a member of the most reactive chemical group, that is, the group having the least allowable volume percentage of the total solvent.
- *Idling Mode* - the time period when a solvent cleaning machine is not actively cleaning parts and the sump heating coils, if present, are turned on (CRIR 12 031 036(36.1.16)).
- *In-line Cleaning* - an organic solvent cleaning machine that uses an automated parts handling system, typically a conveyor, to automatically provide a continuous supply of parts to be cleaned. These units are fully enclosed except for the conveyor inlet and exit openings. In-line cleaning machines can be either cold or vapor cleaning machines (CRIR 12 031 036(36.1.17)).
- *Increment* - the maximum allowable increase in pollutant concentration over the baseline concentration as set forth below (CRIR 12 031 009(9.5.1(d)) [Revised March 1998]):
  1. particulate matter:
    - a. PM<sub>10</sub>, annual geometric mean: 17 micrograms/m<sup>3</sup>
    - b. PM<sub>10</sub>, 24-h maximum: 30 micrograms/m<sup>3</sup>
  2. SO<sub>2</sub>:
    - a. annual geometric mean: 20 micrograms/m<sup>3</sup>
    - b. 24-h maximum: 91 micrograms/m<sup>3</sup>
    - c. 3-h maximum: 512 micrograms /m<sup>3</sup>
  3. NO<sub>2</sub>: annual arithmetic mean: 25 micrograms /m<sup>3</sup>.

- *Industrial-Commercial-Institutional Boiler* - a device that combusts any fuel and produces steam or heats water or any other heat transfer medium. This term does not include utility boilers used by electric utilities to generate electricity (CRIR 12 031 027(27.1.12)).
- *Industrial Maintenance Coating* - a high performance coating which is formulated for the purpose of protecting against heavy abrasion, water immersion, corrosion, temperature extremes, electric potential, solvents or other chemicals (CRIR 12 031 033(33.1.6)).
- *Installation* - used in Subsections 9.3 and 9.4 of this regulation, means an identifiable piece of process equipment which emits or would have the potential to emit any regulated air pollutant (CRIR 12 031 009(9.1.18)).
- *Internal Combustion Engine* - any engine in which power, produced by heat and/or pressure developed in the engine cylinder(s) by burning a mixture of air and fuel, is subsequently converted to mechanical work by means of one or more pistons (CRIR 12 031 027(27.1.13)).
- *Lacquer* - a clear or pigmented coating formulated with nitrocellulose or synthetic resins to dry by solvent evaporation without chemical reaction (CRIR 12 031 033(33.1.8)).
- *Large Incinerator* - an incinerator having a capacity of 2000 lb or more per hour operated for the thermal degradation of Types 0, 1, 2 and 3 refuse (CRIR 12 031 012(12.1.2)).
- *Leakproof Coupling* - a threaded or other type of coupling that prevents solvents from leaking while filling or draining solvent to and from the solvent cleaning machine (CRIR 12 031 036(36.1.18)).
- *Lean-Burn Engine* - an internal combustion engine where the amount of oxygen in the exhaust gases is 1 percent or more, by weight (CRIR 12 031 027(27.1.14)).
- *Lip Exhaust* - a device installed at the top of the opening of a solvent cleaning machine that draws air and solvent vapor from the freeboard zone and removes the air and vapor from the solvent cleaning area (CRIR 12 031 036(36.1.19)).
- *Liquified Petroleum (LP) Gas* - liquified petroleum gas as defined by the American Society for Testing and Materials in ASTM D1835-82, Standard Specification for Liquified Petroleum Gases (CRIR 12 031 027(27.1.15)).
- *Listed Toxic Air Contaminant* - any listed toxic substance emitted to the atmosphere as dust, fume, gas, mist, smoke, vapor, or soot (CRIR 12 031 022(22.1.2)).
- *Listed Toxic Substance* - any substance which has been shown to induce mutagenic, carcinogenic, fetotoxic, or other acute or chronic toxic effects (CRIR 12 031 022(22.1.1)).
- *Long-Life Stockpile Storage* - the storage of cutback asphalt paving mixtures for 30 days or longer (CRIR 12 031 025(25.1.7)).
- *Low-Sulfur Fuel* - any fuel except fuel oil containing 0.55 lb or less of sulfur per million British Thermal Unit heat release potential or fuel oil containing 1.0 percent sulfur or less by weight (CRIR 12 031 008(8.1.1)).
- *Low-NO<sub>x</sub> Burner* - a commercially available modified combustion burner designed to minimize NO<sub>x</sub> formation through low excess air firing, controlled mixing of primary combustion air and fuel (staged air or staged fuel), reducing peak furnace temperature or other burner designs judged to be low-NO<sub>x</sub> burners by the Division and USEPA based on a review of evidence submitted by the subject stationary source (CRIR 12 031 027(27.1.16)).
- *Lowest Achievable Emission Rate or LAER* - for any stationary source, the more stringent rate of emissions based on the following (CRIR 12 031 027(27.1.17)):

1. The most stringent emissions limitation which is contained in the implementation plan of any state for such class or category of stationary source, unless the owner or operator of the proposed stationary source demonstrates that such limitations are not achievable.
  2. The most stringent emissions limitation which is achieved in practice by such class or category of stationary source. This limitation, when applied to a modification, means the lowest achievable emission rate for the new or modified equipment within the stationary source. In no event shall the application of this term permit a proposed new or modified stationary source to emit any pollutant in excess of the amount allowable under applicable new source performance standards.
- *Major Modification* - any physical change or change in the method of operation of a major stationary source that would result in a significant net emission increase of any air pollutant. Any net emission increase that is considered significant for volatile organic compounds or NO<sub>x</sub> shall be considered significant for ozone. A physical change or change in the method of operation shall not include (CRIR 12 031 009(9.1.20)):
    1. routine maintenance, repair, and replacement.
    2. an increase in the hours of operation or in the production rate, unless such change is prohibited by conditions of any Federally enforceable permit issued after 21 December 1976 pursuant to 40 CFR 52.21 (PSD) or under Air Pollution Control Regulation No. 9 or under operating permits issued pursuant to 40 CFR Part 71 or under regulations approved pursuant to 40 CFR Part 70.
    3. any change in ownership at a stationary source.
    4. use of an alternative fuel or raw material by reason of an order under Sections 2(a) and (b) of the Energy Supply and Environmental Coordination Act of 1974 (or any superseding legislation) or by reason of a natural gas curtailment plan pursuant to the Federal Power Act.
    5. use of an alternative fuel at a steam, generating unit to the extent that the fuel is generated from municipal solid waste
    6. use of an alternative fuel or raw material by a stationary source that:
      - a. the source was capable of accommodating before 6 January 1975 unless such change would be prohibited under any Federally enforceable permit condition which was established after 6 January 1975 pursuant to 40 CFR 52.21 or under Air Pollution Control Regulation No. 9 or under operating permits issued pursuant to 40 CFR Part 71 or under regulations approved pursuant to 40 CFR Part 70
      - b. the source is approved to use under any permit issued under 40 CFR 52.21 or under Air Pollution Control Regulation No. 9.
  - *Major Source* - any of the following (CRIR 12 031 029(29.1.20)):
    1. for pollutants other than radionuclides, all of the pollutant-emitting activities located within a contiguous area and under common control that emits or has the potential to emit, in the aggregate, 10 tons per year (tpy) or more of any hazardous air pollutant which has been listed pursuant to Section 112(b) of the Act, 25 tpy or more of any combination of such hazardous air pollutants, or such lesser quantity as the Administrator may establish by rule. Notwithstanding the preceding sentence, emissions from any oil or gas exploration or production well (with its associated equipment) and emissions from any pipeline compressor or pump station shall not be aggregated with emissions from other similar units, whether or not such units are in a contiguous area or under common control, to determine whether such units or stations are major sources.
    2. for radionuclides, major source shall have the meaning specified by the Administrator by rule.
    3. all the pollutant-emitting activities, which belong to the same industrial grouping are located on one or more contiguous or adjacent properties and are under control of the same person or persons under common control, that emits or has the potential to emit, 100 tpy or more of any air pollutant including any fugitive emissions, to the extent they are quantifiable
    4. pollutant-emitting activities shall be considered as part of the same industrial grouping if they belong to the same two-digit code as described in the Standard Industrial Classification Manual, 1987.
    5. all the pollutant-emitting activities, which belong to the same industrial grouping, are located on one or more contiguous or adjacent properties and are under control of the same person or persons under common control, that emits or has the potential to emit 50 tpy or more of volatile organic compounds or oxides of nitrogen including any fugitive emission, to the extent they are quantifiable.

Pollutant-emitting activities shall be considered as part of the same industrial grouping if they belong to the same two-digit code as described in the Standard Industrial Classification Manual, 1987.

- *Major Source Permit* - an approval or permit issued by the Division for the construction or installation of a major stationary source or major modification (CRIR 12 031 009(9.1.21)).
- *Major Stationary Source* - defined by the following (CRIR 12 031 009(9.4.1(b))):
  1. any stationary source of air pollutants which emits or has the potential to emit 50 tpy or more of volatile organic compounds or NO<sub>x</sub> or 100 tpy of any other regulated air pollutant
  2. any physical change that would occur at a stationary source not qualifying under Subsection 9.4.1(b)(1) if the change would constitute a major stationary source by itself
  3. a major stationary source that is major for volatile organic compounds or NO<sub>x</sub> shall be considered major for ozone.
- *Medium Curing Cutback Asphalt* - a cutback asphalt composed of asphalt cement and a kerosene-type diluent of medium volatility, which meets the specifications of the American Society for Testing and Materials (ASTM) Designation D-2027 for Medium-Curing Asphalt, or the American Association of State Highway and Transportation Officials (AASHTO) Designation M82 (CRIR 12 031 025(25.1.8)).
- *Metal Cans* - any cylindrical single walled container, with or without a top, cover, spout, and/or handle that is manufactured from metal sheets thinner than 29 gauge (0.0141 in.) and into which solid or liquid materials are packaged (CRIR 12 031 019(19.1.17)).
- *Minor Source Permit* - an approval or permit issued by the Division for the construction, installation or modification of a stationary source that is neither a major stationary source nor a major modification (CRIR 12 031 009(9.1.22)).
- *Modify* - any physical or operational change to any machine, equipment, device, article, or facility which may result in an increased emission rate to the atmosphere of any air contaminant. The following shall not be considered a modification (CRIR 12 031 009(9.1.23)):
  1. routine maintenance, repair, and replacement of any machine, equipment, device, article or facility or parts thereof as defined in Subsection 9.3.1
  2. increase in production rate of any machine, equipment, device, article or facility as defined in Subsection 9.3.1 based solely upon the capabilities of existing process equipment
  3. increase in hours of operation up to the maximum hours allowed in any Federally enforceable permit
  4. use of an alternative fuel or raw material if the machine, equipment, device, article, or facility was designed and approved to accommodate that alternative use.
- *Multicomponent Coating* - a coating which is packaged in two or more parts, which parts are combined before application, and where a coreactant from one part of the coating chemically reacts, at ambient conditions, with a coreactant from another part of the coating (CRIR 12 031 019(19.1.18)).
- *Multiple Chamber Incinerator* - an incinerator with two or more refractory-lined combustion chambers in series separated physically by refractory walls, interconnected by gas passages, and employing adequate design parameters necessary for maximum combustion of the refuse materials (CRIR 12 031 012(12.1.14)).
- *Natural Finish Hardwood Plywood Panels* - panels whose original grain pattern is enhanced by essentially transparent finishes frequently supplemented by fillers and toners (CRIR 12 031 019(19.1.19)).
- *Natural Gas* - a naturally occurring mixture of hydrocarbon and nonhydrocarbon gases found in geologic formations beneath the earth's surface, of which the principal constituent is methane (CRIR 12 031 027(27.1.18)).

- *Necessary Preconstruction Approval or Permits* - those permits or approvals required under state and Federal air quality control laws and regulations and those air quality control laws and regulations which are part of the Rhode Island State Implementation Plan (CRIR 12 031 009(9.1.24)).
- *Net Emissions Increase* - the amount by which the sum of the following exceeds zero (CRIR 12 031 009(9.1.25)):
  1. any increase in actual emissions from a particular physical change or change in the method of operation at a stationary source
  2. all other increases and decreases in actual emissions at the source that are contemporaneous with the particular change and are otherwise creditable. Creditable increases or decreases are subject to the following:
    - a. an increase or decrease in actual emissions is contemporaneous with the particular change only if it occurs over any period of five consecutive calendar years which includes the calendar year in which such increase occurred
    - b. an increase or decrease in actual emissions is creditable only if:
      - i. the Director has not relied on the increase or decrease in actual emissions in issuing a permit for any stationary source under these regulations and the permit is in effect when the increase in actual emissions from the particular change occurs
      - ii. the Director has not relied on the increase or decrease in actual emissions for netting or offset credit in a previous permit issued under these regulations
      - iii. the Director has not relied on the increase or decrease in actual emissions in demonstrating attainment or reasonable further progress.
  3. an increase or decrease in actual emissions of SO<sub>2</sub>, NO<sub>x</sub> or particulate matter which occurs before the applicable baseline date is creditable only if it is required to be considered in calculating the available remaining increment.
  4. an increase in actual emissions is creditable only to the extent that the new level of actual emissions exceeds the old level.
  5. a decrease in actual emissions is creditable only to the extent that:
    - a. the old level of actual emissions or the old level of allowable emissions, whichever is lower, exceeds the new level of actual emissions
    - b. it is Federally enforceable at and after the time that actual construction on the particular change begins
    - c. it has approximately the same qualitative significance for public health and welfare that attributed to the increase from the particular change.
  6. an increase that results from a physical change at a stationary source occurs when the emissions unit on which construction occurred becomes operational and begins to emit a particular pollutant. Any replacement unit that requires shakedown becomes operational only after a reasonable shakedown period, not to exceed 180 days.
- *Nitrogen Oxides* - nitric oxide (NO) and NO<sub>2</sub>, and any other species of NO<sub>x</sub>, expressed as molecular weight of NO<sub>2</sub> (CRIR 12 031 027(27.1.19)).
- *Nonattainment Area* - for any air pollutant, an area which is shown by monitored data or is calculated by air quality modeling based on monitored data, to exceed any national ambient air quality standard for such pollutant and has been designated as such in the Federal Register (CRIR 12 031 009(9.1.26)).
- *Nonroad Engine* - defined by the following (CRIR 12 031 009(9.1.27)):
  1. any internal combustion engine (including the fuel system) of any size that is used to propel any vehicle not excluded under Subsection (d) of this definition. This includes any internal combustion engine that serves a dual function (i.e., to propel a vehicle and operate a device while stationary), such as a mobile crane.
  2. any internal combustion engine that is located in (or on) a motor vehicle, nonroad vehicle, or trailer which is primarily intended to operate while the vehicle is in motion.
  3. any internal combustion engine or combination of internal combustion engines arranged to function together regardless of application, with a combined output of 175 hp or less which is actually controlled

to meet a regulation under Section 213 of the Clean Air Act, unless excluded under Subsection (d) of this definition.

4. an internal combustion engine is not a nonroad engine if:
    - a. it is used to propel a motor vehicle or a vehicle used solely for competition
    - b. it is regulated under Section 111 or Section 202 of the Clean Air Act, regardless of size.
- *Nonroad Vehicle* - a vehicle that is powered by a nonroad engine and that is not a motor vehicle or a vehicle used solely for competition (CRIR 12 031 029(29.1.23)).
  - *Opacity* - the degree to which the air contaminants reduce the transmission of light and obscure a contrasting background (CRIR 031 001(1.1.1)).
  - *Opacity Monitor* - a photoelectric smoke detector which is permanently installed in breeching or stack (CRIR 12 031 006(6.1.1)).
  - *Open Fire* - any fire from which the products of combustion are emitted directly into the open air without passing through a stack (CRIR 12 031 004(4.1.1)).
  - *Open-Graded Aggregate* - aggregate containing little or no mineral filler or in which the void spaces in the compacted aggregate are large (CRIR 12 031 025(25.1.9)).
  - *Operating Permit* - any permit or group of permits covering a stationary source that is issued, renewed, amended, or revised pursuant to this regulation (CRIR 12 031 029(29.1.24)).
  - *Operating Permit Program* - a program approved by the Administrator under 40 CFR 70 (CRIR 12 031 029(29.1.25)).
  - *Organic Materials* - chemical compounds of carbon excluding CO, CO<sub>2</sub>, carbonic acid, metallic carbides, metallic carbonates, and ammonium carbonate (CRIR 12 035 005(15.1.2)).
  - *Organic Solvent Cleaning* - the process of cleaning contaminants or water from surfaces by cold cleaning or vapor cleaning using volatile organic compounds (VOC) or volatile hazardous air pollutants (CRIR 12 031 036(36.1.20)).
  - *Organic Solvents* - organic materials that are liquids at standard conditions and which are used as dissolvers, viscosity reducers, diluents, thinners, reagents, or cleaning agents (CRIR 12 035 005(15.1.1)).
  - *Oven* - a chamber within which heat is used to bake, cure or polymerize and/or dry a surface coating (CRIR 12 031 019(19.1.20)).
  - *Overall Control Efficiency* - the percent control efficiency which accounts for both the percent emissions reduction as measured across the control device, and percent capture efficiency of the control device (CRIR 12 031 014(14.1.4)).
  - *Packaging Rotogravure Printing* - rotogravure printing upon paper, paper board, metal foil, plastic film or other substrates, and other substrates, which are, in subsequent operations, formed into packaging products and labels for articles to be sold (CRIR 12 031 020(21.1.7)).
  - *Pail* - any cylindrical metal shipping container with a capacity of greater than or equal to 1 and less than 13 gal and constructed of 29 gauge and heavier material (CRIR 12 031 019(19.1.21)).
  - *Particulate Matter* - any airborne finely divided solid or liquid material with an aerodynamic diameter smaller than 100 micrometers (CRIR 12 031 009(9.1.29)).

- *Particulate Matter Emissions* - all finely divided solid or liquid material, other than uncombined water, emitted to the ambient air as measured by applicable reference methods, or an equivalent or alternative method, as specified in 40 CFR 53 (CRIR 12 031 009(9.1.30)).
- *Pathological Incinerator* - an incinerator designed for the thermal degradation of pathological waste (Type 4 refuse) (CRIR 12 031 012(12.1.3)).
- *Peak Ozone Season* - the months of June, July, and August, during which conditions for photochemical ozone formation are most favorable (CRIR 12 031 014(14.1.6)).
- *Penetrating Prime Coat* - the application of low-viscosity liquid asphalt to an absorbent base surface prior to applying an asphalt surface (CRIR 12 031 025(25.1.10)).
- *Percentage Annual Throughput* - the weighted percent of yearly activity for the following periods (CRIR 12 031 014(14.1.7)):
  1. December of the previous year to February of the reporting year
  2. March to May
  3. June to August
  4. September to November.
- *Perchloroethylene Dry Cleaning Facility* - a facility engaged in the cleaning of fabrics by means of one or more washes in perchloroethylene, extraction of excess perchloroethylene by spinning, and drying by tumbling in an airstream. The facility includes, but is not limited to, any washer, dryer, filter, and purification system; waste disposal system; holding tank, pump, air pollution control equipment and attendant piping, valves, and stacks (CRIR 12 031 022(22.1.9)).
- *Permit Modification* - any revision to an operating permit that cannot be accomplished under the provisions for administrative amendments provided in Subsection 29.10.1. A permit modification for purposes of the acid rain portion of the permit shall be governed by regulations promulgated under Title IV of the Act (CRIR 12 031 029(29.1.26)).
- *Permit Revision* - any permit modification or administrative permit amendment (CRIR 12 031 029(29.1.)).
- *Person* - an individual, trust, firm, joint stock company, corporation (including a quasi-governmental corporation), partnership, association, syndicate, municipality, municipal or state agency, fire district, club, nonprofit agency or any subdivision, commission, department, bureau, agency or department of state or Federal government (including quasi-governmental corporation) or of any interstate body (CRIR 12 031 020(21.1.8)).
- *PM<sub>10</sub>* - particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured by a reference method based on Appendix J of 40 CFR 50 and designated in accordance with 40 CFR 53 or by an equivalent method designated in accordance with 40 CFR 53 (CRIR 12 031 009(9.1.31)).
- *PM<sub>10</sub> Emissions* - finely divided solid or liquid material, with an aerodynamic diameter less than or equal to a nominal 10 micrometers emitted to the ambient air as measured by an applicable reference method, or an equivalent or alternative method as specified in 40 CFR 53 (CRIR 12 031 009(9.1.32)).
- *Potential Emissions* - the maximum capacity of a stationary source to emit a pollutant under its physical or operational design unless limited by the conditions of a Federally enforceable document (CRIR 12 031 015(15.1.14)).
- *Potential To Emit* - the maximum capacity of a stationary source to emit a pollutant under its physical or operational design. Any physical or operational limitation on the capacity of a stationary source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or

amount of material combusted, stored, or processed, shall be treated as part of its design only if the limitation or the effect it would have on emissions is federally enforceable (CRIR 12 031 027(27.1.20)).

- *Proposed Permit* - the version of a permit that the Division proposes to issue and forwards to the Administrator for review (CRIR 12 031 029(29.1.29)).
- *Primary Condenser* - a series of cooling coils on a vapor cleaning machine through which a chilled substance is circulated to provide continuous condensation of rising solvent vapors and, thereby, create a concentrated solvent vapor zone (CRIR 12 031 036(36.1.22)).
- *Prime Coat* - the first of two or more coatings applied to a surface (CRIR 12 031 019(19.1.24)).
- *Printed Interior Panels* - panels whose grain or natural surface is obscured by fillers and basecoats upon which a simulated grain or decorative pattern is printed (CRIR 12 031 019(19.1.25)).
- *Printing Press* - equipment used to apply words, pictures, or graphic designs to either a continuous substrate or a sheet. A continuous substrate consists of paper, plastic, or other material that is unwound from a roll, passed through coating or ink applicators and any associated drying areas. The press includes all coating and ink applicators and drying areas between unwind and rewind of the continuous substrate. A sheet consists of paper, plastic, or other material that is carried through the process on a moving belt. The press includes all coating and ink applicators and drying operations between the time that the sheet is put on the moving belt until it is taken off (CRIR 12 031 020(21.1.10)).
- *Private Residence* - a one, two, or three family dwelling (CRIR 12 035 001(10)).
- *Process Change* - any modification of a machine, device or article undertaken to achieve compliance with this regulation (CRIR 12 031 015(15.1.15)).
- *Process Weight* - the total weight of all materials introduced into any specific process, except liquid and gaseous fuels and combustion air, which may cause any emissions of particulate matter into the atmosphere (CRIR 12 031 003(3.1.1)).
- *Publication Rotogravure Printing* - rotogravure printing upon paper which is subsequently formed into books, magazines, catalogues, brochures, directories, newspaper supplements, or other types of printed materials (CRIR 12 031 020(21.1.11)).
- *Reasonable Further Progress* - such annual incremental reductions in emissions of the relevant air pollutant as are required by Part D of the Clean Air Act as amended in 1990 or may reasonably be required by the Director for the purpose of ensuring attainment of the applicable national ambient air quality standards in an area (CRIR 12 031 009(9.1.34)).
- *Reasonably Available Control Technology and RACT* - the lowest emission limitation that a particular coating line is capable of meeting by using measures that are reasonably available in terms of technological and economic feasibility. Such measures may include either control system(s) or coating reformulation(s) or both (CRIR 12 031 019(19.1.26)).
- *Reconstruction* - will be presumed to have taken place where the fixed capital cost of the new components exceeds 50 percent of the fixed capital cost of a comparable entirely new stationary source. Any final decision as to whether reconstruction has occurred shall be made in accordance with the provisions of 40 CFR 60.15 (f)(1) - (3). A reconstructed stationary source will be treated as a new stationary source for purposes of this regulation. In determining lowest achievable emission rate for a reconstructed stationary source, the provisions of 40 CFR 60.15 (f)(4) shall be taken into account in assessing whether a new source performance standard is applicable to such stationary source (CRIR 12 031 009(9.1.35)).

- *Reference Method* - a method of sampling and analyzing the ambient air for an air pollutant that is specified as a reference method in an appendix to 40 CFR 50 or a method that has been designated as a reference method in accordance with 40 CFR 53; it does not include a method for which a reference method designation has been canceled in accordance with 40 CFR 53.11 or 53.16 (CRIR 12 030 002(1)(b)).
- *Refinishing* - the repainting of used equipment (CRIR 12 031 019(19.1.27)).
- *Refrigerated Freeboard Chiller* - a control device mounted above the primary condenser coils consisting of secondary coils which carry a refrigerant to provide a chilled air blanket above the solvent vapor to reduce emissions from the solvent cleaning machine (CRIR 12 031 036(36.1.23)).
- *Regulated Air Pollutant* - the following (CRIR 12 031 029(29.1.30)):
  1. NO<sub>x</sub> or any volatile organic compounds
  2. any pollutant for which a national ambient air quality standard has been promulgated
  3. any pollutant that is subject to any standard promulgated under Section 111 of the Act
  4. any Class I or II substance subject to a standard promulgated under or established by Title VI of the Act
  5. any pollutant subject to a standard promulgated under Section 112 or other requirements established under Section 112 of the Act, including Sections 112(g), (j), and (r) of the Act, including the following:
    - a. any pollutant subject to requirements under Section 112(j) of the Act. If the Administrator fails to promulgate a standard by the date established pursuant to Section 112(e) of the Act, any pollutant for which a subject stationary source would be major shall be considered to be regulated on the date 18 mo after the applicable date established pursuant to Section 112(e) of the Act
    - b. any pollutant for which the requirements of Section 112(g)(2) of the Act have been met, but only with respect to the individual stationary source subject to the Section 112(g)(2) requirement
  6. any substance listed in Table I of Air Pollution Control Regulation No. 22.
- *Remote-Reservoir Cold Cleaning* - cold cleaning using equipment which pumps liquid solvent to a sink-like work area and then drains the solvent back into an enclosed container while pans are being cleaned, allowing no solvent to pool in the work area (CRIR 12 031 036(36.1.24)).
- *Renewal* - the process by which a permit is reissued at the end of its term (CRIR 12 031 029(29.1.31)).
- *Research and Development Operations* - activities in a laboratory or pilot plant directed toward (CRIR 12 031 029(29.1.32)):
  1. the discovery of facts, scientific principles, reactions or substances
  2. the structuring or establishment of methods of manufacture or of specific designs of saleable substances, devices, or procedures, based upon previously discovered facts, scientific principles, reactions or substances.

Development shall not include production for sale of established products through established processes, nor shall it include production for distribution through market testing channels.
- *Residual Oil* - crude oil, fuel oil that does not comply with the specifications under the definition of distillate oil, and all fuel oil numbers 4, 5, and 6 as defined by the American Society for Testing and Materials in ASTM D396-78, "Standard Specification for Fuel Oils" (CRIR 12 031 027(27.1.22)).
- *Responsible Official* - one of the following (CRIR 12 031 029(29.1.33)):
  1. for a corporation: a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit and either:
    - a. the facilities employ more than 250 persons or have gross annual sales or expenditures exceeding \$25 million (in second quarter 1980 dollars)
    - b. the delegation of authority to such representative is approved in advance by the Division.

2. for a partnership or sole proprietorship: a general partner or the proprietor, respectively.
  3. for a municipality, state, Federal, or other public agency: either a principal executive officer or ranking elected official. For the purposes of this regulation, a principal executive officer of a Federal agency includes the chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., a Regional Administrator of USEPA).
  4. for affected sources:
    - a. the designated representative in so far as actions, standards, requirements, or prohibitions under Title IV of the Act or the regulations promulgated thereunder are concerned
    - b. the designated representative for any other purposes under 40 CFR 70.
- *Rich-Burn Engine* - an internal combustion engine where the amount of oxygen in the engine exhaust gases is less than 1 percent by weight (CRIR 12 031 027(27.1.23)).
  - *Roll Printing* - the application of words, designs and/or pictures to a substrate by means of a series of hard rubber or steel rolls each with only partial coverage (CRIR 12 031 020(21.1.13)).
  - *Rotary Cup Burner* - any unit which provides atomization by centrifugally dispersing the fuel from a rotating cup and utilizes natural draft as a secondary air supply (CRIR 12 031 013(13.1.1.4)).
  - *Rotogravure Printing* - the application of words, designs and/or pictures to a substrate by means of a roll-printing technique, in which the pattern to be applied by the printing roll is accomplished by an intaglio or recessed image areas in the form of cells (CRIR 12 031 020(21.1.14)).
  - *Sand Seal* - a single application of liquefied asphalt to an existing paved surface followed by a single layer of fine aggregate (CRIR 12 031 025(25.1.11)).
  - *Seal Coat* - a thin liquified asphalt surface treatment used to waterproof and improve the texture of an asphalt-wearing surface (CRIR 12 031 025(25.1.12)).
  - *Secondary Air* - air that is introduced to the furnace as compared to primary air which is introduced with the fuel at the burner (CRIR 12 031 013(13.1.1.3)).
  - *Secondary Emissions* - emissions which occur as a result of the construction or operation of a major stationary source or major modification, but do not come from the major stationary source or major modification itself. Secondary emissions must be specific, well defined, quantifiable and impact the same general areas as the stationary source or modification. Secondary emissions include emissions from any offsite support facility which would not be constructed or increase its emissions except as a result of the construction or operation of the major stationary source or major modification. Secondary emissions do not include emissions from any mobile source regulated under Title II of the Clean Air Act (CRIR 12 031 009(9.1.36)).
  - *Section 111* - that portion of the Federal Clean Air Act that addresses New Source Performance Standards (CRIR 12 031 029(29.1.34)).
  - *Section 112* - that portion of the Federal Clean Air Act that addresses National Emission Standards for Hazardous Air Pollutants (CRIR 12 031 029(29.1.35)).
  - *Section 502(b)(10) Changes* - changes that contravene an express permit term. Such changes do not include changes that would violate applicable requirements or contravene federally enforceable permit terms and conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements (CRIR 12 031 029(29.1.36)).
  - *Sewage Sludge Incinerator* - an incinerator designed for the thermal degradation of the sludge produced by municipal sewage treatment facilities (CRIR 12 031 012(12.1.5)).

- *SIC Code* - a Standard Industrial Classification code, as described in the Standard Industrial Classification Manual, 1972, as amended by the 1977 Supplement (U.S. Government Printing Office Stock Nos. 4101- 0066 and 003-005-00176-0, respectively) (CRIR 12 031 014(14.1.8)).
- *Significant* - in reference to a net emissions increase or the potential of a source to emit a rate of emissions that would equal or exceed any of the following rates (CRIR 12 031 009(9.1.37)):
  1. pollutant and emissions rate
  2. CO: 100 tpy
  3. NO<sub>x</sub>: 25 tpy
  4. SO<sub>2</sub>: 40 tpy
  5. particulate matter: 25 tpy
  6. particulate matter less than 10 microns in diameter: 15 tpy
  7. ozone: 25 tpy of volatile organic compounds or NO<sub>x</sub>
  8. lead: 0.6 tpy
  9. asbestos: 0.007 tpy
  10. beryllium: 0.0004 tpy
  11. mercury: 0.1 tpy
  12. vinyl chloride: 1 tpy
  13. fluorides: 3 tpy
  14. sulfuric acid mist: 7 tpy
  15. hydrogen sulfide (H(2)S): 10 tpy
  16. total reduced sulfur (including H(2)S): 10 tpy
  17. reduced sulfur comp. (including H(2)S): 10 tpy
  18. municipal waste combustor organics (measured as total tetra- through octa- chlorinated dibenzo-p-dioxins and dibenzofurans): 3.2 x 10<sup>-6</sup> tpy
  19. municipal waste combustor metals (measured as particulate matter): 15 tpy
  20. municipal waste combustor acid gases (measured as SO<sub>2</sub> and hydrogen chloride): 40 tpy
  21. any other air pollutant: 5 tpy.
- *Significant Impact* - an increase in the annual average or maximum short-term ambient concentration of a pollutant that would exceed any of the following (CRIR 12 031 008(8.1.6)):

Pollutant	Annual	Averaging Time			
		24 h	8 h	3 h	1 h
SO <sub>2</sub>	1.0 mg/m <sup>3</sup>	5 mg/m <sup>3</sup>	--	--	25 mg/m <sup>3</sup>
TSP	1.0 mg/m <sup>3</sup>	5 mg/m <sup>3</sup>	--	--	
NO <sub>2</sub>	1.0 mg/m <sup>3</sup>	--	--	--	--
CO	--	--	--	0.5 mg/m <sup>3</sup>	2 mg/m <sup>3</sup>

- *Simple Cycle Gas Turbine* - any stationary gas turbine which does not recover heat from the gas turbine exhaust gases to preheat the inlet combustion air to the gas turbine, or which does not recover heat from the gas turbine exhaust gases to heat water or generate steam (CRIR 12 031 027(27.1.24)).
- *Single Chamber Flue-Fed Incinerator* - an incinerator with one combustion chamber and a single flue that serves as both the charging chute and the flue to transport products of combustion to the atmosphere (CRIR 12 031 012(12.1.15)).
- *Small Incinerator* - an incinerator having a capacity of less than 2000 lb/h operated for the thermal degradation of Types 0, 1, 2, and 3 refuse (CRIR 12 031 012(12.1.1)).
- *Solid Waste Management Facility* - any plant, structure, equipment, and other real and personal property acquired, constructed or operated for the purpose of processing, treating, or disposing of solid wastes but not segregated solid waste (CRIR 12 031 004(4.1.2)).

- *Solvent/Air Interface* - for a vapor cleaning machine, the location of contact between the concentrated solvent vapor layer and the air. If this location cannot be determined, it is assumed to be at the mid-line height of the primary condenser coils. For a cold cleaning machine, it is the location of contact between the liquid solvent and the air (CRIR 12 031 036(36.1.25)).
- *Solvent Cleaning Machine* - any device or piece of equipment that uses solvent liquid or vapor to remove contaminants from the surfaces of materials. Types of solvent cleaning machines include, but are not limited to, batch vapor, in-line vapor, in-line cold, and batch cold solvent cleaning machines (CRIR 12 031 036(36.1.26)).
- *Solvent Vapor Zone* - for a vapor cleaning machine, the zone that extends from the liquid solvent surface to the level that solvent vapor is condensed. This condensation level is defined as the midline height of the primary condenser coils (CRIR 12 031 036(36.1.27)).
- *Source* - any building, structure, facility, installation or equipment which emits or may emit any air contaminant (CRIR 12 035 001(12)).
- *Special Incinerator* - an incinerator designed for the thermal degradation of Types 5 and 6 refuse (CRIR 12 031 012(12.1.4)).
- *Specialty Printing* - all other rotogravure and flexographic printing operations, excluding publication printing and packaging printing (CRIR 12 031 020(21.1.15)).
- *Stack* - a flue, conduit or opening to provide for the emission of the products of combustion and/or other air contaminants into the atmosphere (CRIR 12 035 001(13)).
- *Stationary Internal Combustion Engine* - defined by the following (CRIR 12 031 009(9.1.38)):
  1. any internal combustion engine greater than 175 hp, unless excluded under Subsections (e) or (f) of this definition
  2. any combination of internal combustion engines totaling more than 175 hp when such engines are arranged to function together unless excluded under Subsections (e) or (f) of this definition
  3. any internal combustion engine regulated under Section 111 of the Clean Air Act, regardless of size
  4. any internal combustion engine of 175 hp or less not actually controlled to meet a regulation under Section 213 of the Clean Air Act, unless excluded under Subsections (e) or (f) of this definition
  5. an internal combustion engine that is used to propel a motor vehicle or nonroad vehicle is not a stationary internal combustion engine. This includes any internal combustion engine which serves a dual function (i.e., to both propel a vehicle and operate a device while stationary) such as a mobile crane.
  6. an internal combustion engine which is located in, or on, a motor vehicle or nonroad vehicle and is primarily intended to operate while the vehicle is in motion is not a stationary internal combustion engine.
- *Stationary Source* - any building, structure, facility, or installation that emits or may emit any air pollutant. A stationary source may consist of one or more emissions units. A stationary source does not include emissions resulting directly from an internal combustion engine for transportation purposes or emissions from a nonroad engine or nonroad vehicle (CRIR 12 031 009(9.1.39)).
- *Sump* - the part of a solvent cleaning machine where the liquid solvent is located (CRIR 12 031 036(36.1.28)).
- *Superheated Vapor System* - a system that heats solvent vapor to a temperature above the solvent's boiling point. Parts are held (dwell) in the superheated vapor to evaporate the liquid solvent on them before exiting the machine. Hot vapor recycle is an example of a superheated vapor system (CRIR 12 031 036(36.1.29)).
- *Surface Coating* - a process whereby a layer of one or more substances containing VOC and solids are deposited on another material (substrate) in a uniform manner across the surface of the substrate. The layer of coating may

be used for appearance, to decorate, bond, protect, strengthen, functionalize, and/or impart stability, water or acid repellence or mildew resistance. For purposes of this regulation only, types of coating processes are defined as follows (CRIR 12 031 019(19.1.1)):

1. paper coating -- the application of a coating or coatings on paper, pressure-sensitive tapes, plastic film, or metal foil to impart any or all qualities above
2. fabric coating -- the application of a coating or coatings on a textile substrate to impart any or all qualities above
3. vinyl coating -- the application of a coating or coatings on a vinyl coated paper, vinyl coated fabric, or vinyl substrate or printing on vinyl-coated fabric or vinyl sheets to impart any or all qualities above
4. miscellaneous metal parts and products (MMP) coating means the application of a coating or coatings, including, but not limited to, adhesives, on any metal part or metal product, even if attached to or combined with a nonmetal part or product, miscellaneous metal parts and products include, but are not limited to:
  - a. large farm machinery (harvesting, fertilizing and planting machines, tractors, combines, etc.)
  - b. small farm machinery (lawn and garden tractors, lawn mowers, rototillers, etc.)
  - c. small appliances (fans, mixers, blenders, crock pots, dehumidifiers, vacuum cleaners, etc.)
  - d. commercial machinery (office equipment, computers and auxiliary equipment, typewriters, calculators, vending machines, etc.)
  - e. industrial machinery (pumps, compressors, conveyor components, fans, blowers, transformers, etc.)
  - f. fabricated metal products (metal-covered doors, frames, etc.)
  - g. any other industrial category that coats metal parts or products under the Standard Industrial Classification Codes of Major Group 33 (primary metal industries), Major Group 34 (fabricated metal products), Major Group 35 (nonelectric machinery), Major Group 36 (electrical machinery), Major Group 37 (transportation equipment), Major Group 38 (miscellaneous instruments), and Major Group 39 (miscellaneous manufacturing industries)
  - h. application of underbody antichip materials (e.g., underbody plastisol) and coating application operations other than prime, primer surface, topcoat, and final repair operations at automobile and light-duty truck assembly plants
  - i. miscellaneous metal parts coating does not include the application of a coating or coatings to the following:
    - i. automobiles and light-duty trucks
    - ii. automobile and light duty truck refinishing
    - iii. customized top coating of automobiles and trucks, if production is less than 35 vehicles per day
    - iv. metal cans
    - v. flat metal sheets and strips in the form of rolls or coils
    - vi. magnet wire for use in electrical machinery
    - vii. metal furniture
    - viii. large appliances
    - ix. exterior of completely assembled aircraft
    - x. exterior of major aircraft subassemblies, if approved by the Director, and approved by USEPA, as a Federal Implementation Plan (FIP) or State Implementation Plan (SIP) revision
    - xi. exterior of completely assembled marine vessels
    - xii. exterior of major marine vessel subassemblies if approved by the Director, and approved by USEPA, as a FIP or SIP revision
    - xiii. exterior of tanks used for bulk storage of chemicals at the facility
5. magnet wire coating -- the application of a coating in which an electrically insulating varnish or enamel is applied onto the surface of a wire for use in electrical machinery
6. coil coating -- the application of a coating to any continuous metal strip with thickness of 0.006 in. or more that is packaged in a roll or coil
7. flat wood paneling coating -- the application of a coating to flat wood panels including printed interior panels made of hardboard plywood and thin particle board (i.e., less than or equal to 0.25 in. in thickness) natural finish hardboard plywood panels and hardboard paneling with Class II finishes

(NOTE: Flat wood paneling does not include: Class I hardboard panels, particle board used in furniture or wood products, insulation board, exterior siding, tileboard, and soft wood plywood coating lines.)

8. metal furniture coating -- the application of a coating to any furniture piece made of metal or any metal part that will be assembled with other metal, wood, fabric, plastic, or glass parts to form a furniture piece including, but not limited to, tables, chairs, waste baskets, beds, desk, locker, benches, shelving, file cabinets, and room dividers
9. large appliance coating -- the application of a coating to the surface of component metal parts (including, but not limited to, doors, cases, lids, panels and interior parts) of any residential or commercial washer, dryer, freezer, range, refrigerator, water heater, dishwasher, trash compactor, air conditioner, or other similar products under Standard Industrial Classification code 363

(NOTE: Large appliance coating does not include the use of quick drying lacquers for repair of scratches and nicks that occur during assembly, provided that the volume of coating does not exceed 0.25 gal in any one 8 h period.)

- *Technology-Based Emission Limitation* - an emission limitation that is formulated on the basis of the application of measures, processes, methods, systems, or techniques, including but not limited to (CRIR 12 031 029(29.1.38)):
  1. enclosing systems or processes to eliminate emissions
  2. collecting, capturing, destroying, incinerating, or treating such pollutants when released from a process, stack, storage, or fugitive emissions point
  3. design, equipment, work practice, or operational standards
  4. reducing the volume of or eliminating emissions of such pollutants through process changes, substitution of materials, or other modifications
  5. are a combination of any of the above.
- *Temporary Source* - a stationary source which, by design, is intended to be operated at more than one location and which is relocated at least once in 5 yr (CRIR 12 031 029(29.1.39)).
- *Thin Particleboard* - a manufactured board that is 0.25 in. or less in thickness made of individual wood particles that have been coated with a binder and formed into flat sheets by pressure (CRIR 12 031 019(19.1.28)).
- *Tileboard* - paneling that has a colored, waterproof surface coating (CRIR 12 031 019(19.1.29)).
- *Title I Modification or Modification Under Any Provision of Title I of the Act* - any modification under Section 111 or 112 of the Act and any physical change or change in method of operations that is subject to the preconstruction regulations promulgated under Part C and D of Title I of the Act. The following are not considered Title I modifications or modifications under any provision of Title I (CRIR 12 031 029(29.1.40)):
  1. routine maintenance, repair, and replacement
  2. an increase in the hours of operation or in the production rate, unless such change is prohibited by conditions of any Federally enforceable document
  3. a change in ownership at a stationary source
  4. any modification subject to the minor source permitting requirements in Air Pollution Control Regulation No. 9.
- *Title III* - that portion of the Federal Clean Air Act Amendments of 1990 codified in Section 112 of the Act that addresses requirements for the administration and control of air emissions of toxic air pollutants (CRIR 12 031 029(29.1.41)).
- *Title IV* - that portion of the Federal Clean Air Act that addresses requirements for the administration and control of air emissions contributing to acid deposition (acid rain) (CRIR 12 031 029(29.1.42)).
- *Title V* - that portion of the Federal Clean Air Act that established the requirements for Federal operating permits, permit fees, and approval of comparable State programs (CRIR 12 031 029(29.1.43)).

- *Title VI* - that portion of the Federal Clean Air Act that provides for Stratospheric Ozone and Global Climate Protection, primarily through the control of emissions of chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs) (CRIR 12 031 029(29.1.44)).
- *Topcoat* - the final film or series of films of coating applied to a surface (CRIR 12 031 019(19.1.30)).
- *Type 0 Refuse* - trash, consisting of a mixture of highly combustible refuse such as paper, cardboard, cartons, wood boxes and combustible floor sweepings, containing approximately 10 percent moisture and five percent incombustible solids, and having a heating value of approximately 8500 Btu/lb as fired, and deriving from commercial and industrial activities. The mixtures contain up to 10 percent by weight of plastic bags, coated paper, laminated paper, treated corrugated cardboard, oily rags, and plastic or rubber scraps (CRIR 12 031 012(12.1.7)).
- *Type 1 Refuse* - rubbish, consisting of a mixture of combustible refuse such as paper, cardboard, cartons, wood scraps, foliage and combustible floor sweepings, containing approximately 25 percent moisture and 10 percent combustible solids and having a heating value of approximately 6500 Btu/lb as fired, and deriving from domestic, commercial and industrial activities. The mixture contains up to 20 percent by weight of restaurant or cafeteria refuse but contains little or no treated paper, plastic or rubber refuse (CRIR 12 031 012(12.1.8)).
- *Type 2 Refuse* - refuse, consisting of an approximately even mixture of rubbish and garbage by weight, containing up to 50 percent moisture and approximately 7 percent incombustible solids, and having a heating value of approximately 4300 Btu/lb as fired, and commonly deriving from apartment and residential occupancy (CRIR 12 031 012(12.1.9)).
- *Type 3 Refuse* - garbage, consisting of animal and vegetable refuse containing up to 70 percent moisture and up to 5 percent incombustible solids and having a heating value of approximately 2500 Btu/lb as fired and deriving from restaurants, cafeterias, hotels, hospitals, markets, and like installations (CRIR 12 031 012(12.1.10)).
- *Type 4 Refuse* - human and animal remains, consisting of carcasses, organs, and solid organic refuse from hospitals, laboratories, abattoirs, animal pounds, and similar sources and any matter or materials involving or pertaining to disease or disease-producing organisms, including infectious agents and helminths (CRIR 12 031 012(12.1.11)).
- *Type 5 Refuse* - gaseous, liquid or semiliquid byproduct refuse from industrial operations not defined as a hazardous material (CRIR 12 031 012(12.1.12)).
- *Type 6 Refuse* - solid byproduct refuse from industrial operations not defined as a hazardous material (CRIR 12 031 012(12.1.13)).
- *Typical Ozone Season Day* - a day typical of the months of June, July, and August with respect to operations, emissions, control equipment operation, and process rate (CRIR 12 031 014(14.1.9)).
- *Utility Boiler* - a device, with a heat input capacity of 250 Mbtu/h or greater, that combusts any fuel and produces steam for the primary purpose of generating electricity. This term does not include combustion turbines (CRIR 12 031 027(27.1.26)).
- *Vapor Cleaning* - an organic solvent cleaning process in which contaminants or water are cleaned and removed from surfaces by condensing hot solvent vapor on the colder pieces. This definition includes vapor degreasing and drying (CRIR 12 031 036(36.1.30)).
- *Volatile Organic Compound and VOC* - any organic which participates in atmospheric photochemical reactions. This includes any organic compound other than the following compounds (CRIR 12 031 025(25.1.13)):
  1. acetone
  2. CFC-11 (trichlorofluoromethane)

3. CFC-12 (dichlorodifluoromethane)
4. CFC-113 (1,1,1-trichloro 2,2,2-trifluoroethane)
5. CFC-114 (1,2-dichloro 1,1,2,2-tetrafluoroethane)
6. CFC-115 (chloropentafluoroethane)
7. ethane
8. HCFC-22 (chlorodifluoromethane)
9. HCFC-123 (1,1,1-trifluoro 2,2-dichloroethane)
10. HCFC-124 (2-chloro 1,1,1,2-tetrafluoroethane)
11. HCFC-141b (1,1-dichloro 1-fluoroethane)
12. HCFC-142b (1-chloro 1,1-difluoroethane)
13. HFC-23 (trifluoromethane)
14. HFC-125 (pentafluoroethane)
15. HFC-134 (1,1,2,2-tetrafluoroethane)
16. HFC-134a (1,1,1,2-tetrafluoroethane)
17. HFC-143a (1,1,1-trifluoroethane)
18. HFC-152a (1,1-difluoroethane)
19. methane
20. methyl chloroform (1,1,1-trichloroethane)
21. methylene chloride (dichloromethane)
22. parachlorobenzotrifluoride (PCBTf)
23. volatile methyl siloxanes
24. the perfluorocarbon compounds which fall into these classes:
  - a. cyclic, branched, or linear, completely fluorinated alkanes
  - b. cyclic, branched, or linear, completely fluorinated ethers with no unsaturations
  - c. cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations
  - d. sulfur-containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine.

These compounds have been determined to have negligible photochemical reactivity. For purposes of determining compliance with emission limits, VOC will be measured by the approved test methods. Where such a method also inadvertently measures compounds with negligible photochemical reactivity as defined above, an owner or operator may exclude these negligible photochemical reactive compounds when determining compliance with an emissions standard. Exempt solvents will be treated as water in pounds of VOC per gallon of coating minus water calculations.

- *Volatile Organic Liquid* - any material containing carbon and hydrogen or containing carbon and hydrogen in combination with any other element or elements which has a vapor pressure of 1.5 lb psi absolute or greater under actual storage conditions and exists as a liquid under conditions of standard temperature and pressure (0 °C and 1 atmosphere) (CRIR 12 035 001(14)).
- *Waste Oil* - used or spent oil of any kind, including but not limited to those oils from automotive, industrial, aviation, and other source categories (CRIR 12 031 020(20.1.6)).
- *Wood Residue* - a waste byproduct of the pulp and paper industry that consists of bark, sawdust, slabs, chips, shavings, and mill trim (CRIR 12 031 020(20.1.7)).
- *Working Mode* - the time period when the solvent cleaning machine is actively cleaning parts (CRIR 12 031 036(36.1.32)).

**AIR EMISSIONS MANAGEMENT  
GUIDANCE FOR RHODE ISLAND CHECKLIST USERS**

**REFER TO CHECKLIST ITEMS:**

State-Specific Air Requirements	
General	AE.5.1.RI
Odorous Emissions	AE.5.2.RI
Pollution Control Systems	AE.5.3.RI
Continuous Emissions Monitoring	AE.5.4.RI
Emissions Episodes	AE.5.5.RI and AE.5.6.RI
Maintenance	AE.5.7.RI
Recordkeeping and Reporting	AE.5.8.RI
Emissions Statements	AE.5.9.RI
Permits	AE.5.10.RI through AE.5.13.RI
RACT for No <sub>x</sub> Sources	AE.5.14.RI through AE.5.20.RI.
RACT for VOC Sources	AE.5.21.RI
Toxic Emissions	AE.5.22.RI and AE.5.23.RI
Ambient Air Quality	AE.5.24.RI
Visible Emissions	AE.5.25.RI
Steam Generators	AE.10.1.RI and AE.10.2.RI
Fuel-Burning Equipment	
Alternative Fuels	AE.15.1.RI through AE.15.4.RI
Coke and Anthracite Coal	AE.15.5.RI
Miscellaneous Incinerators	AE.25.1.RI through AE.25.4.RI
Medical Waste Incinerators	AE.30.1.RI
Sewage Sludge Incinerators	AE.45.1.RI
Gasoline/Fuels	AE.55.1.RI
Printing Presses and Graphic Arts	AE.60.1.RI through AE.60.3.RI
Fugitive Emissions	AE.65.1.RI
Dry cleaning Operations	
Perchloroethylene	AE.75.1.RI through AE.75.9.RI
Coating Operations	
General	AE.100.1.RI through AE.100.16.RI
Architectural and Industrial	AE.100.17.RI and AE.100.18.RI
Maintenance Coatings	
Degreasing Operations	
General	AE.115.1.RI through AE.115.3. RI
Cold Cleaning	AE.116.1.RI
Vapor Cleaning	AE.117.1.RI through AE.117.11.RI
Reporting	AE.118.1.RI through AE.118.8.RI
Miscellaneous VOC Operations	AE.125.1.RI
Open Burning	AE.130.1.RI
Asphalt Paving Materials/Operations	AE.145.1.RI and AE.145.2. RI
Other Emissions/Sources	
Industrial Processes	AE.155.1.RI

### GUIDANCE FOR APPENDIX USERS

#### REFER TO APPENDIX NUMBERS:

#### REFER TO APPENDIX TITLES:

1-1	Fugitive Emission Standards
1-2	Minimum Quantities of Toxics
1-3	Minimum Quantities of Contaminants
1-4	Acceptable Ambient Levels
1-5	VOC Content Limits for Surface Coating Operations
1-6	VOC Content Limits for Architectural and Industrial Maintenance Coatings
1-7	Test of Operator Knowledge of Solvent Cleaning Procedures
1-8	Sources Subject to Minor Source Permitting Requirements
1-9	Hazardous Air Pollutants

**COMPLIANCE CATEGORY:  
AIR EMISSIONS MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>STATE-SPECIFIC AIR REQUIREMENTS</b></p> <p><b>AE.5. General</b></p> <p><b>AE.5.1.RI.</b> Installations/CW facilities must not emit air contaminants detrimental to persons or property (CRIR 12 030 007).</p> <p><b>Odorous Emissions</b></p> <p><b>AE.5.2.RI.</b> Installations/ CW facilities must limit odorous emissions (CRIR 12 031 017) [Revised March 1998].</p> <p><b>Pollution Control Systems</b></p> <p><b>AE.5.3.RI.</b> Air pollution control systems must be operated according to design specifications (CRIR 12 031 016) [Revised March 1998].</p>	<p>Verify that installations/CW facilities do not emit any contaminant which, either alone or in connection with other emissions, by reason of their concentration or duration, may be injurious to human, plant, or animal life, cause damage to property, or unreasonably interfere with the enjoyment of life and property.</p> <p>Verify that installations/CW facilities do not emit into the atmosphere any air contaminant or combination of air contaminants which creates an objectionable odor beyond the property lines.</p> <p>Verify that any air pollution control system is operated according to design specifications whenever the source to which it is attached is in operation or emits contaminants.</p> <p>Verify that, in the case of malfunction of any air pollution control system, all reasonable measures are taken to assure resumption of the designed control efficiency as soon as possible.</p> <p>(NOTE: In the event that the malfunction of an air pollution control system is expected or may reasonably be expected to continue for longer than 24 h, the installation/CW facility owning the source on which it is installed may petition the Director for a variance to continue operating the source.)</p>

**COMPLIANCE CATEGORY:  
AIR EMISSIONS MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>Continuous Emissions Monitoring</b></p> <p><b>AE.5.4.RI.</b> Stationary sources subject to Federal continuous emissions monitoring requirements must meet additional state requirements (CRIR 12 031 006) [Added March 1998].</p>	<p>(NOTE: Requirements do not apply to private residences.)</p> <p>Verify that stationary sources subject to the continuous emissions monitoring requirements of 40 CFR 51 meet the following state requirements:</p> <ul style="list-style-type: none"> <li>- record the total process operating time of each piece of equipment for each calendar quarter</li> <li>- report the total process operating time of each piece of equipment each calendar quarter.</li> </ul> <p>Verify that records are maintained for at least 2 yr.</p>
<p><b>Emissions Episodes</b></p> <p><b>AE.5.5.RI.</b> Sources of air pollutants must have standby plans for reducing air emissions during air episodes (CRIR 12 031 010(10.3)) [Revised March 1998].</p>	<p>Verify that the following sources have a standby plan for reducing emissions of air pollutants during periods of an Air Pollution Alert, Air Pollution Warning, and Air Pollution Emergency:</p> <ul style="list-style-type: none"> <li>- coal or oil-fired electric power generating facilities</li> <li>- coal or oil-fired process steam generating facilities</li> <li>- manufacturing industries in the following classifications: <ul style="list-style-type: none"> <li>- primary metals industries</li> <li>- petroleum refining operations</li> <li>- chemical industries mineral processing industries</li> <li>- paper and allied products</li> </ul> </li> <li>- grain industries.</li> </ul> <p>(NOTE: Operators of sources not identified above may be required to prepare standby plans at the request of the Director.)</p> <p>Verify that standby plans are in writing and identify the sources of air pollutants, the approximate amount of reduction of pollutants, and a brief description of the manner in which the reduction will be achieved during an Air Pollution Alert, Air Pollution Warning, and Air Pollution Emergency.</p> <p>Verify that, during a condition of Air Pollution Alert, Air Pollution Warning, and Air Pollution Emergency, standby plans are made available on the premises to any person authorized to enforce the provisions of applicable rules and regulations.</p>

<b>COMPLIANCE CATEGORY:</b> <b>AIR EMISSIONS MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<p><b>AE.5.6.RI.</b> Installations/CW facilities must implement air emissions reduction plans whenever the Governor declares an air emergency episode (CRIR 12 031 010(10.2)) [Added March 1998].</p> <p><b>Maintenance</b></p> <p><b>AE.5.7.RI.</b> Installations/CW facilities must report scheduled maintenance of air pollution control equipment (CRIR 12 035 002(9.10.1)).</p> <p><b>Recordkeeping and Reporting</b></p> <p><b>AE.5.8.RI.</b> Stationary source of air contaminants must meet recordkeeping and reporting</p>	<p>Verify that standby plans are submitted to the Director upon request within 30 days of the receipt of a request for review and approval by the Director.</p> <p>Verify that installations/CW facilities implement air emissions reduction plans whenever the Governor declares an air emergency episode.</p> <p>Verify that any instructions given by the Director are followed during an air emergency episode.</p> <p>(NOTE: This is a general requirement that dates back to the mid-1970s for all air pollution control equipment. For most sources, more stringent regulations have been promulgated.)</p> <p>Verify that, in the case of shutdown of air pollution control equipment for necessary scheduled maintenance, the intent to shutdown such equipment is reported to the Director at least 24 h prior to the planned shutdown. Such prior notice includes, but is not limited to, the following:</p> <ul style="list-style-type: none"> <li>- identification of the specific facility to be taken out of service as well as its location and permit number</li> <li>- the expected length of time that the air pollution control equipment will be out of service</li> <li>- the nature and quantity of emissions of air contaminants likely to occur during the shutdown period.</li> </ul> <p>Verify that, in the case of breakdown of air pollution control equipment, the Director is notified immediately.</p> <p>(NOTE: This is a general requirement that dates back to the mid-1970s for all stationary sources. For most sources, more stringent regulations have been promulgated.)</p>

<b>COMPLIANCE CATEGORY:</b> <b>AIR EMISSIONS MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
requirements (CRIR 12 035 002(14)) [Revised March 1998].	<p>(NOTE: Installations/CW facilities must keep and report such information as is requested of them by the Director.)</p> <p>Verify that installations/CW facilities with stationary source of air contaminants maintain records of and submits to the Director data on operational processes, fuel usage, emissions, stack parameters, boiler capacities, types of equipment generating air contaminants, and air contaminant control devices that may be necessary to determine whether the source is in compliance with applicable rules and regulations of the Department.</p> <p>Verify that the information recorded is summarized and reported to the Director of the Department of Health on forms furnished by the Director and is submitted within 45 days following the end of the reporting period (i.e., 1 January to 30 June and 1 July to 31 December).</p> <p>(NOTE: These requirements do not apply to any emission source installed or used in one, two, or three family dwellings.)</p>
<b>Emissions Statements</b>	
<b>AE.5.9.RI</b> Facilities [see definition] emitting VOCs or NO <sub>x</sub> must submit emission statements (CRIR 12 031 014.3) [Revised March 1998].	<p>Verify that facilities [see definition] emitting VOCs or NO<sub>x</sub> which have or have had actual facility-wide emissions of 25 tons/yr or more of either pollutant in 1990, or any year thereafter, annually submit an emission statement which includes both pollutants.</p> <p>Verify that the emission statement contains the following information:</p> <ul style="list-style-type: none"> <li>- a certification that the information contained in the emission statement is accurate and complete to the best knowledge of the certifying individual</li> <li>- the full name, title, signature, date of signature, and telephone number of the certifying individual</li> <li>- facility identification information, including the full name, physical location, mailing address, latitude, longitude, and four digit SIC code(s)</li> <li>- process data pertaining to each process emitting VOC and/or NO<sub>x</sub>, including:               <ul style="list-style-type: none"> <li>- annual and typical ozone season daily fuel use</li> <li>- annual and typical ozone season daily process rate(s)</li> <li>- process throughput while air pollution control equipment was not in operation</li> </ul> </li> <li>- operating data pertaining to each process emitting VOC and/or NO<sub>x</sub> during the reporting year, including:               <ul style="list-style-type: none"> <li>- percentage annual throughput</li> <li>- average hours of operation per day during the reporting year and on a typical ozone season day</li> </ul> </li> </ul>

<b>COMPLIANCE CATEGORY:</b> <b>AIR EMISSIONS MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<p><b>Permits</b></p> <p><b>AE.5.10.RI.</b> Specific sources must have minor source permits (CRIR 12 031 009 (9.3.1 and 9.3.2)) [Revised March 1998].</p>	<ul style="list-style-type: none"> <li>- average number of days of operation per week during the reporting year and during a typical ozone season week</li> <li>- weeks of operation during the reporting year and during the peak ozone season</li> <li>- control equipment information, including:               <ul style="list-style-type: none"> <li>- specific primary and secondary control equipment for each process emitting VOC and/or NO<sub>x</sub></li> <li>- current overall control efficiency for each piece of control equipment (indicated by percent capture and percent destruction or removal)</li> <li>- control equipment downtime during the reporting year and during the peak ozone season</li> </ul> </li> <li>- emissions information, including:               <ul style="list-style-type: none"> <li>- actual annual and typical ozone season daily emissions of VOC and NO<sub>x</sub> for each process. Emissions should be reported in tons per year and in pounds per day</li> <li>- a description of the emission calculation method and, if applicable, emission factor(s) used</li> <li>- the calendar year for which emissions are reported</li> </ul> </li> <li>- any additional information required by the Director to document the facility's emission statements.</li> </ul> <p>Verify that a minor source permit is obtained for the construction, installation or modification of the sources listed in Appendix 1-8.</p> <p>(NOTE: The permit requirements do not apply to the construction, installation, or modification of any air pollution control system and appurtenances where:</p> <ul style="list-style-type: none"> <li>- emission of air contaminants in the absence of the air pollution control system would comply with all applicable state and Federal air pollution control rules and regulations</li> <li>- emission of air contaminants in the absence of the air pollution control system would not exceed any of the thresholds</li> <li>- the air pollution control system is used to treat emission of air contaminants generated from a groundwater cleanup operation and the air pollution control system will reduce emissions of VOC by at least 95 percent.)</li> </ul> <p>(NOTE: Any air pollution control system and appurtenances exempted from the requirement to obtain a permit must file a registration form with the Division prior to the construction, installation, or modification of the system.)</p> <p>(NOTE: Requirements do not apply to incinerators constructed, installed, modified, or used in owner-occupied dwellings with less than three units.)</p>

**COMPLIANCE CATEGORY:  
AIR EMISSIONS MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>AE.5.11.RI.</b> New or modified major stationary sources must obtain a major source permit (CRIR 12 031 009(9.4.2)).</p>	<p>Verify that the following sources have major source permits:</p> <ul style="list-style-type: none"> <li>- new major stationary sources or modifications of major sources of volatile organic compounds or NO<sub>x</sub> proposed in areas designated as either nonattainment for ozone or as part of an ozone transport region</li> <li>- new major stationary sources or modifications of major sources of SO<sub>2</sub>, NO<sub>x</sub>, CO, or PM<sub>10</sub> proposed in areas designated as nonattainment for the pollutant for which the source or modification is major.</li> </ul>
<p><b>AE.5.12.RI.</b> In specific areas, existing or modified major stationary sources must obtain a major source permit (CRIR 12 031 009(9.5.2)) [Revised March 1998].</p>	<p>Verify that major stationary sources or major modifications proposed in areas designated as attainment or unclassifiable (prevention of significant deterioration) for any pollutant for which there is a significant net emissions increase at the source or modification obtain a major source permit.</p>
<p><b>AE.5.13.RI</b> Stationary sources must have a valid operating permit (CRIR 12 031 029(29.2)).</p>	<p>Verify that the following stationary sources have valid operating permits:</p> <ul style="list-style-type: none"> <li>- any major source</li> <li>- any affected source</li> <li>- any stationary source in a source category designated by the USEPA pursuant to 40 CFR 70</li> <li>- any stationary source, including an area source, subject to a standard, limitation, or other requirement under Section 111 of the Act</li> <li>- any stationary source, including an area source, subject to a standard or other requirement under Section 112 of the Act, except that a stationary source is not required to obtain a permit solely because it is subject to regulations or requirements under Section 112(r) of the Act.</li> </ul> <p>(NOTE: The following, stationary sources are exempt from obtaining a permit:</p> <ul style="list-style-type: none"> <li>- all stationary sources listed above that are not major sources, affected sources, or solid waste incineration units required to obtain a construction permit</li> <li>- unless otherwise required by the Division to obtain an operating permit, the following source categories are exempt from the obligation to obtain an operating permit: <ul style="list-style-type: none"> <li>- all stationary sources and source categories that would be required to obtain a permit solely because they are subject to 40 CFR 60, Subpart AAA (Standards of Performance for New Residential Wood Heaters)</li> <li>- all stationary sources and source categories that would be required to obtain a permit solely because they are subject to 40 CFR 61, Subpart</li> </ul> </li> </ul>

<b>COMPLIANCE CATEGORY:</b> <b>AIR EMISSIONS MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<b>RACT for NO<sub>x</sub> Sources</b>	<p>M National Emission Standard for Hazardous Air Pollutants for Asbestos, Section 61.145, Standard for Demolition and Renovation.)</p> <p>(NOTE: RACT requirements for NO<sub>x</sub> emissions apply to all stationary sources that have or have had, since 1 January 1990, the potential to emit 50 tons of NO<sub>x</sub> per year from all pollutant-emitting equipment or activities comply with the provisions of this regulation. Stationary sources with potential yearly emissions of 50 tons or more of NO<sub>x</sub>, but with actual emissions not exceeding 50 tons/yr of NO<sub>x</sub> any time after 1 January 1990, may apply for an exemption via an enforceable document issued by the Director which limits actual emissions to less than 50 tons/yr of NO<sub>x</sub>. Any stationary source that has been issued such an emissions cap and fails to meet the requirements of the enforceable document is immediately required to be in compliance with RACT. These requirements do not apply to any emergency standby internal combustion engines which is operated less than 500 h during any consecutive 12-mo period, except for recordkeeping requirements.)</p>
<b>AE.5.14.RI.</b> Boilers must comply with Reasonably Available Control Technology (RACT) requirements (CRIR 12 031 027(27.4.1 and 27.4.2)) [Revised March 1998].	<p>Verify that emissions of NO<sub>x</sub> from any utility boiler do not exceed the following emission limitations:</p> <ul style="list-style-type: none"> <li>- 0.20 lb/MBtu of heat input when operated on natural gas or liquefied petroleum (LP) gas</li> <li>- 0.25 lb/MBtu of heat input when operated on fuel oil.</li> </ul> <p>Verify that emissions of NO<sub>x</sub> from any industrial, commercial, or institutional boiler, fired with natural gas or distillate oil, with a heat input capacity of 50 MBtu/h or greater, do not exceed the following emission limitations:</p> <ul style="list-style-type: none"> <li>- 0.10 lb/MBtu of heat input when operated on natural gas</li> <li>- 0.12 lb/MBtu of heat input when operated on distillate oil or liquefied petroleum (LP) gas.</li> </ul> <p>Verify that installations/CW facilities with industrial, commercial, or institutional boilers, operated on distillate oil or liquefied petroleum (LP) gas, with a heat input capacity of 50 MBtu/h or greater, obtain a certification containing the following information from the fuel supplier for each shipment of distillate oil:</p> <ul style="list-style-type: none"> <li>- name of the oil supplier</li> <li>- that the oil complies with the specification for fuel oil numbers 1 or 2, as defined by the American Society for Testing and Materials in ASTM D396-78 Standard Specification for Fuel Oils.</li> </ul> <p>Verify that NO<sub>x</sub> emissions are not discharged from any industrial, commercial, or institutional boiler, fired with residual oil, with a heat input capacity of 50 MBtu/h</p>

**COMPLIANCE CATEGORY:  
AIR EMISSIONS MANAGEMENT  
Rhode Island Supplement**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 1998
	<p>or greater, unless the boiler is equipped with low-NO<sub>x</sub> burners and flue gas recirculation (with a minimum of 10 percent flue gas recirculation) or equivalent control.</p> <p>Verify that NO<sub>x</sub> emissions are not discharged from any industrial, commercial, or institutional boiler, with a heat input capacity of 1 MBtu/h or greater, but less than 50 MBtu/h, unless the boiler is tuned at least once per year.</p> <p>(NOTE: These requirements do not apply to equipment and pollutant-emitting activities that have been determined to be BACT or LAER in any permit issued by the Division pursuant to Air Pollution Control Regulation No. 9 since 15 November 1992.)</p>
<p><b>AE.5.15.RI.</b> Internal combustion engines rated at 400 hp or more must comply with NO<sub>x</sub> emission limitations (CRIR 12 031 027(27.4.3)) [Revised March 1998].</p>	<p>Verify that NO<sub>x</sub> emissions are not discharged from any internal combustion engine, capable of producing 400 hp or more, in excess of the following emission limitations:</p> <ul style="list-style-type: none"><li>- rich-burn engines use 1.5 gal per brake horsepower hour when operated on natural gas, lean-burn engines</li><li>- lean-burn engines<ul style="list-style-type: none"><li>- 2.5 gal per brake horsepower hour when operated on natural gas</li><li>- 9.0 g per brake horsepower hour when operated on fuel oil.</li></ul></li></ul> <p>(NOTE: These requirements do not apply to equipment and pollutant-emitting activities that have been determined to be BACT or LAER in any permit issued by the Division pursuant to Air Pollution Control Regulation No. 9 since 15 November 1992.)</p> <p>(NOTE: These requirements do not apply to equipment and pollutant emitting activities listed below, that have been issued a permit for the construction/installation of new equipment by the Division, pursuant to Air Pollution Control Regulation No. 9, since 6 January 1989 for combustion turbine facilities.)</p>
<p><b>AE.5.16.RI.</b> Miscellaneous sources must comply with NO<sub>x</sub> emission limitations (CRIR 12 031 027(27.4.4)) [Revised March 1998].</p>	<p>Verify that any stationary source, equipment, or pollutant-emitting activity, with the potential to emit 10 tons or more of NO<sub>x</sub> /yr, not subject to other NO<sub>x</sub> limitations, installs and operates RACT.</p> <p>Verify that any stationary source which becomes a potential 50 ton/yr NO<sub>x</sub> stationary source after 30 November 1993 installs and operates RACT within 18 mo of the date that the stationary source first becomes a potential 50-ton/yr NO<sub>x</sub> stationary source.</p> <p>(NOTE: These requirements do not apply to equipment and pollutant-emitting</p>

<b>COMPLIANCE CATEGORY:</b> <b>AIR EMISSIONS MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<p><b>AE.5.17.RI.</b> All stationary sources of NO<sub>x</sub> must meet recordkeeping and reporting requirements (CRIR 12 031 027(27.6.1 through 27.6.3.)).</p>	<p>activities that have been determined to be BACT or LAER in any permit issued by the Division pursuant to Air Pollution Control Regulation No. 9 since 15 November 1992.)</p> <p>(NOTE: These requirements do not apply to the following equipment and pollutant-emitting activities that have been issued a permit for the construction/installation of new equipment by the Division, pursuant to Air Pollution Control Regulation No. 9, since the indicated date:</p> <ul style="list-style-type: none"> <li>- combustion turbine facilities, 6 January 1989</li> <li>- internal combustion engines, 28 September 1989</li> <li>- fluidized bed boilers, 11 March 1991.)</li> </ul>
	<p>Verify that all stationary sources meet the following recordkeeping and reporting requirements:</p> <ul style="list-style-type: none"> <li>- maintain a record of all measurements, performance evaluations, calibration checks, and maintenance or adjustments for each continuous emission monitor</li> <li>- file a written report of excess emissions as measured by a continuous emission monitor with the Division every calendar quarter, no later than 30 days following the end of each calendar quarter</li> <li>- reports include the following information: <ul style="list-style-type: none"> <li>- date and time of commencement and completion of each period of excess emissions and the magnitude of the excess emissions</li> <li>- identification of the suspected reason for the excess emissions and any corrective action taken</li> <li>- date and time period any continuous emission monitor was inoperative, except for zero and span checks and the nature of system repairs or adjustments</li> <li>- date and time periods of any missing data or periods where compliance could not be determined and the steps taken to cure the cause of the missing data.</li> <li>- in the event none of the these have occurred, a statement saying so.)</li> </ul> </li> </ul> <p>Verify that the fuel used in each combustion unit subject to RACT is measured and recorded daily.</p> <p>(NOTE: As an alternative to measuring and recording fuel used in each combustion unit, a stationary source may petition the Division to use an alternative method to demonstrate compliance with RACT.)</p>
<p><b>AE.5.18.RI.</b> All stationary sources must comply with fuel certification requirements</p>	<p>Verify that all stationary sources combusting residual fuel oil obtain a certification from the fuel supplier for each shipment of residual oil that includes the following</p>

**COMPLIANCE CATEGORY:  
AIR EMISSIONS MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p>(CRIR 12 031 027(27.6.5 and 27.6.7)) [Revised March 1998].</p>	<p>information:</p> <ul style="list-style-type: none"> <li>- location of the oil when the sample was drawn for analysis to determine the nitrogen content of the oil, specifically including whether the oil was sampled as name of the oil supplier</li> <li>- location of the oil when the sample was drawn for analysis to determine the nitrogen content of the oil, specifically including whether the oil was sampled as delivered to the stationary source or whether the sample was drawn from oil in storage at the oil supplier's or oil refiner's facility or another location.</li> </ul> <p>Verify that copies of all fuel supplier certifications or fuel oil analyses are maintained at the facility and are made accessible for review and are submitted to the Division for each calendar quarter.</p>
<p><b>AE.5.19.RI.</b> Stationary sources subject to an emissions cap must comply with specific requirements (CRIR 12 031 027(27.6.9)) [Revised March 1998].</p>	<p>Verify that stationary sources subject to an emissions cap in lieu of RACT requirements meet the following requirements:</p> <ul style="list-style-type: none"> <li>- measure and record monthly the fuel used in each combustion unit with a heat input greater than or equal to 1 MBtu/hr</li> <li>- on a monthly basis, no later than 15 days after the first of each month, determine the fuel usage and quantity of NO<sub>x</sub> emitted for the previous 12-mo period for each combustion unit or for the stationary source</li> <li>- notify the Division, in writing within 30 days of the end of the month, whenever NO<sub>x</sub> emissions exceed the emissions cap.</li> </ul> <p>(NOTE: As an alternative to measuring and recording fuel used in each combustion unit, a stationary source may petition the Division to use an alternative method to demonstrate compliance with an emissions cap.)</p>
<p><b>AE.5.20.RI.</b> Stationary sources with emergency generators must comply with certain requirements (CRIR 12 031 027(27.6.10)) [Revised March 1998].</p>	<p>Verify that all stationary sources with emergency standby internal combustion engines claiming exemption from RACT requirements due to limited usage do the following:</p> <ul style="list-style-type: none"> <li>- notify the Division, in writing of: <ul style="list-style-type: none"> <li>- the maximum capacity, in million British Thermal Units per hour, of each emergency standby internal combustion engine at the stationary source</li> <li>- the type of fuel or fuels combusted in each engine</li> </ul> </li> <li>- install and maintain a nonresettable elapsed time meter to indicate, in cumulative hours, the elapsed engine operating time</li> <li>- on a monthly basis, no later than 5 days after the first of each month, determine and record the hours of operation for each engine for the previous 12-mo period</li> </ul>

<b>COMPLIANCE CATEGORY:</b> <b>AIR EMISSIONS MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<p><b>RACT for VOC Sources</b></p> <p><b>AE.5.21.RI.</b> Installations/CW facilities emitting more than 100 ton VOC/yr must comply with RACT requirements (CRIR 12 031 015 (15.3.1 through 15.3.4)) [Revised March 1998].</p>	<ul style="list-style-type: none"> <li>- notify the Division, in writing, whenever the hours of operation in any 12-mo period exceeds 500 h</li> <li>- maintain records to certify that the ignition timing of the engine has been inspected and adjusted at least once every 3 yr</li> <li>- maintain all records in this subsection at the stationary source for a minimum of 5 yr and are made available to representatives of the Division or USEPA upon request.</li> </ul> <p>(NOTE: RACT requirements apply to all installations/CW facilities that have or have had VOC emissions from all pollutant-emitting equipment or activities of at least:</p> <ul style="list-style-type: none"> <li>- 100 tons/yr actual emissions of VOC since 1 January 1985</li> <li>- 100 tons/yr potential emissions of VOC since 10 December 1989</li> <li>- 50 tons/yr potential emissions of VOC since 1 January 1990.)</li> </ul> <p>(NOTE: The RACT emissions limitations do not apply to the following sources:</p> <ul style="list-style-type: none"> <li>- equipment and pollutant-emitting activities that are regulated by 12 031 011, 018, 09, 021, 022.6, 025 and 026 or which have been determined to be BACT or LAER in a permit issued by the Division after 15 November 1990 pursuant to Air Pollution Control Regulation No. 9</li> <li>- the spraying or other employment of insecticides, pesticides or herbicides</li> <li>- the blending of distillate or residual fuel oils.)</li> </ul> <p>Verify that any installation/CW facility which, prior to 1 January 1989, but not before 1 January 1985, ever had actual emissions of VOC equal to 100 tons/year or more from equipment not specifically controlled by any other VOC regulation, meets RACT requirements.</p> <p>Verify that any facility which, prior to 30 November 1993, ever had potential emissions of VOC of 100 ton/year or more meets RACT requirements.</p> <p>Verify that any facility which has or ever has had potential emissions of VOC of 50 tons/year or more, since 1 January 1990, from equipment not specifically controlled by any other VOC regulation, meets RACT requirements.</p>
<p><b>Toxic Emissions</b></p>	<p>(NOTE: This section applies to any stationary source using or generating a listed toxic substance in any process, unless exempted. The following are exempt from the provisions of this regulation:</p> <ul style="list-style-type: none"> <li>- the application of any pesticide or herbicide regulated under authority of the Federal Insecticide, Fungicide, Rodenticide Act or the Rhode Island</li> </ul>

**COMPLIANCE CATEGORY:  
AIR EMISSIONS MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>AE.5.22.RI.</b> Stationary sources with the potential to increase emissions of a listed toxic over the minimum quantity must have a valid construction permit (CRIR 12 031 022(22.3)) [Revised March 1998].</p>	<p>Pesticide Control Act, with the exception of the use of ethylene oxide for fumigation or sterilization, is exempted from these requirements</p> <ul style="list-style-type: none"> <li>- gasoline filling stations</li> <li>- fossil fuel burning solely for the use of producing heat.)</li> </ul> <p>Verify that installations/CW facilities do not construct, install, or modify any stationary source which has the potential to increase emissions of a listed toxic air contaminant by greater than the minimum quantity for that contaminant, as specified in Appendix 1-3, without first obtaining an approved construction permit from the Director.</p>
<p><b>AE.5.23.RI.</b> Stationary sources with emissions in excess of specific chemical limits must meet registration requirements (CRIR 12 031 022(22.4)) [Revised March 1998].</p>	<p>Verify that any stationary source which used or emitted amounts greater than the minimum quantity, as specified in Appendix 1-3, of any listed toxic substance in the previous calendar year, or which intends to use or emit greater than the minimum quantity during the present calendar year, files a registration form with the Director on or before 1 March of each year.</p> <p>Verify that any stationary source which initiates use of greater than the minimum quantity, as specified in Appendix 1-3, per year of a listed toxic substance registers with the Director prior to first use of that substance.</p>
<p><b>Ambient Air Quality</b></p>	
<p><b>AE.5.24.RI.</b> Installations/CW facilities must not contribute to violations of ambient air quality standards (CRIR 12 030 002) [Added March 1998].</p>	<p>Verify that installations/CW facilities do not contribute to violations of ambient air quality standards for SO<sub>x</sub>:</p> <ul style="list-style-type: none"> <li>- primary standard: <ul style="list-style-type: none"> <li>- 80 micrograms/m<sup>3</sup> (0.03 ppm), annual arithmetic mean</li> <li>- 365 micrograms/m<sup>3</sup> (0.14 ppm), maximum 24-h concentration not to be exceeded more than once per year</li> </ul> </li> <li>- secondary standard: 1300 micrograms/m<sup>3</sup> (0.05 ppm), maximum 3-h concentration not to be exceeded more than once per year.</li> </ul> <p>Verify that installations/CW facilities do not contribute to violations of ambient air quality standards for particulate matter:</p> <ul style="list-style-type: none"> <li>- primary and secondary 24-h standard: 150 micrograms/m<sup>3</sup>, 24-h average</li> </ul>

<b>COMPLIANCE CATEGORY:</b> <b>AIR EMISSIONS MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<p><b>Visible Emissions</b></p> <p><b>AE.5.25.RI.</b> Sources must meet opacity standards (CRIR 12 031 001(1.2 and 1.4)) [Added March 1998].</p>	<p>concentration</p> <ul style="list-style-type: none"> <li>- primary and secondary annual standard: 50 micrograms/m<sup>3</sup>, annual arithmetic mean.</li> </ul> <p>Verify that installations/CW facilities do not contribute to violations of the primary ambient air quality standard for CO:</p> <ul style="list-style-type: none"> <li>- 9 ppm (10 mg/m<sup>3</sup>), 8-h average not to be exceeded more than once per year</li> <li>- 35 ppm (40 mg/m<sup>3</sup>), 1-h average not to be exceeded more than once per year.</li> </ul> <p>Verify that installations/CW facilities do not contribute to violations of primary and secondary ambient air quality standards for ozone, which are 0.12 ppm (235 micrograms/m<sup>3</sup>).</p> <p>Verify that installations/CW facilities do not contribute to violations of ambient air quality standards for NO<sub>2</sub>:</p> <ul style="list-style-type: none"> <li>- primary standard: 0.053 ppm (100 micrograms/m<sup>3</sup>), annual arithmetic mean</li> <li>- secondary standard: 0.053 ppm (100 micrograms/m<sup>3</sup>), annual arithmetic mean.</li> </ul> <p>Verify that installations/CW facilities do not contribute to violations of primary and secondary ambient air quality standards for lead, which are 1.5 micrograms/m<sup>3</sup> maximum arithmetic mean averaged over a calendar quarter.</p> <p>Verify that installations/CW facilities do not contribute to violations of the secondary ambient air quality standard for hydrogen sulfide, which is 14 micrograms/m<sup>3</sup> (0.01 ppm), 1-h average.</p> <p>Verify that sources do not emit any air contaminants, for a period or periods aggregating more than 3 min in any 1 h, with an opacity equal to or greater than 20 percent opacity.</p> <p>(NOTE: When the presence of uncombined water is the only reason for failure to meet the opacity requirement, the failure is not considered a violation of the standard.)</p>

<b>COMPLIANCE CATEGORY:</b> <b>AIR EMISSIONS MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>Revised March 1998</b>
<b>AE.10.</b> <b>STEAM GENERATORS</b>	
<b>AE.10.1.RI.</b> Fossil fuel-fired steam or hot-water generating units must meet air pollution control requirements (CRIR 12 031 013 (13)) [Revised March 1998].	<p>Verify that emissions from any fossil fuel or wood residue fired steam or hot water generating unit with a maximum rated heat input capacity of 1 MBtu/h or more of particulate matter do not exceed 0.10 lb/MBtu of actual heat input.</p> <p>Verify that, if a source is approved to burn high sulfur fuel oil, then the particulate emissions do not exceed 0.15 lb per MBtu actual heat input while high sulfur fuel oil is being burned.</p> <p>Verify that, if a source is approved to burn high sulfur fuel oil, then the particulate emissions do not exceed the average particulate emission rate in any 24-h period of 0.1 lb/MBtu actual heat input.</p> <p>Verify that installations/CW facilities do not construct, operate, or modify any fossil fuel or wood residue fired steam or hot water generating unit designed to burn residual oil or wood residue, with a heat input capacity of 1 MBtu/h or more, unless it utilizes a burner or burners of a design approved by the Director.</p> <p>(NOTE: Approval of burner design is obtained in conjunction with the required application for prior approval of the Director to install the fossil fuel-fired steam or hot water-generating unit.)</p> <p>Verify that installations/CW facilities do not operate any fossil fuel fired steam or hot water generating unit burning residual oil, with a heat input capacity of 1 MBtu/h or more, unless it utilizes a rotary cup burner or burners of a design approved by the Director.</p> <p>(NOTE: The above does not apply to those generating units for which a demonstration is made to the satisfaction of the Director that they:</p> <ul style="list-style-type: none"> <li>- are used only in an emergency or a standby basis</li> <li>- are able to maintain compliance with applicable regulations.)</li> </ul>
<b>AE.10.2.RI.</b> Specific fossil fuel-fired steam- or hot water-generating units must use opacity monitoring devices (CRIR 12 031 006) [Revised March 1998].	<p>Verify that the following fossil fuel-fired steam- or hot water-generating units are equipped with an opacity monitor with audio alarm:</p> <ul style="list-style-type: none"> <li>- all units burning No. 6 residual oil or solid fuel</li> <li>- units burning all other liquid fuels and having a heat input capacity of 5 MBtu/h or more.</li> </ul> <p>Verify that these devices are calibrated to sound the alarm at 20 percent opacity</p>

<b>COMPLIANCE CATEGORY:</b> <b>AIR EMISSIONS MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>Revised March 1998</b>
	<p>and operated continuously during combustion of fuel.</p> <p>(NOTE: If more than one unit is served by a single stack, this requirement is met with a single device located to detect any visible products of combustion from each unit. The audio alarm is located in an area where it is heard by the operator of or other person responsible for the unit(s).</p>

**COMPLIANCE CATEGORY:  
AIR EMISSIONS MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>FUEL-BURNING EQUIPMENT</b></p> <p><b>AE.15. Alternative Fuels</b></p> <p><b>AE.15.1.RI.</b> Burning of alternative fuels require written approval (CRIR 12 031 020(20.3)).</p> <p><b>AE.15.2.RI</b> Burners of alternative fuels must have knowledgeable operators (CRIR 12 031 020(20.4.2.c)).</p> <p><b>AE.15.3.RI</b> Users of alternative fuels must comply with emission restrictions (CRIR 12 031 020(20.5.1)) [Revised March 1998].</p>	<p>(NOTE: The provisions of this regulation apply to any person burning alternative fuels in fuel burning equipment with a heat input capacity of 1 MBtu/h or greater.)</p> <p>Verify that no person burns alternative fuels without first obtaining written approval from the Director.</p> <p>Verify that any sources permitted to burn alternative fuels have a full-time operator in attendance who is knowledgeable in the operation of the fuel burning equipment used for burning the alternative fuels.</p> <p>Verify that any person burning alternative fuels is in compliance with all applicable rules and regulations of the Division of Air and Hazardous Materials or subject to the requirements of an enforceable compliance schedule.</p> <p>Verify that sources do not allow the emission of air contaminants from the burning of alternative fuels that:</p> <ul style="list-style-type: none"> <li>- causes or contributes to a violation of any state or national ambient air quality standard</li> <li>- by reason of its concentration or duration may be injurious to human, plant, or animal life</li> <li>- unreasonably interferes with enjoyment of life or property or causes damage to property</li> <li>- causes an increase in ground level concentrations of a listed toxic air contaminant, at or beyond the property line of that facility, in excess of the Acceptable Ambient Levels (see Appendix 1-4).</li> </ul> <p>(NOTE: The Department may set standards for the properties of alternative fuels more stringent than those listed above as may be necessary to prevent air pollution where it is determined that an aerodynamic downwash problem exists at a source.)</p>

<b>COMPLIANCE CATEGORY:</b> <b>AIR EMISSIONS MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<b>AE.15.4.RI.</b> Sources burning alternative fuels must comply with recordkeeping requirements (CRIR 12 031 020(20.9 through 20.11)).	<p>Verify that sources burning alternative fuels maintains records for a period of 3 yr that include:</p> <ul style="list-style-type: none"> <li>- feed rate of alternative fuels</li> <li>- total fuel feed rate</li> <li>- date and hour deliveries or additions to the fuel storage tanks are made and the quantity</li> <li>- time that burning of the alternative fuel commenced and ceased, or was interrupted, including the date and hour</li> <li>- name and address of the supplier of the alternative fuel.</li> </ul> <p>Verify that sources or suppliers forward results of these analyses to the Division of Air and Hazardous Materials within 10 working days of required sampling.</p> <p>Verify that any person selling alternative fuels retains for a period of 3 yr records of each sale, including gallons sold, the date of delivery and the person who receives the alternative fuel for burning, and makes these records available to the Department for inspection upon request.</p>
<b>Coke and Anthracite Coal</b>	
<b>AE.15.5.RI.</b> Coke and anthracite coal must meet burning device requirements (CRIR 12 031 002 (2.2 and 2.3)) [Revised March 1998].	<p>Verify that no persons use or consume in a hand fired installation any solid fossil fuel other than coke or anthracite coal.</p> <p>Verify that any coal other than anthracite is used only in mechanically-fired installations.</p> <p>(NOTE: These requirements do not apply to private residences.)</p>

**COMPLIANCE CATEGORY:  
AIR EMISSIONS MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>AE.25. MISCELLANEOUS INCINERATORS</b></p> <p><b>AE.25.1.RI.</b> Incinerators must meet construction and operation permit requirements (CRIR 12 031 012 (12.4)) [Revised March 1998].</p> <p><b>AE.25.2.RI.</b> Construction or operation of a single chamber flue-fed incinerators are forbidden (CRIR 12 031 012 (12.6.1)) [Revised March 1998].</p> <p><b>AE.25.3.RI.</b> Small incinerators must limit particulate emissions (CRIR 12 031 012(12.3.1)) [Revised March 1998].</p> <p><b>AE.25.4.RI.</b> Large and special incinerators must limit particulate emissions (CRIR 12 031 012 (12.3.2)) [Added March 1998].</p>	<p>Verify that incinerators do not undergo construction or commence operation without a approval from the Director.</p> <p>Verify that single chamber flue-fed incinerators are not used or constructed.</p> <p>Verify that small incinerators do not emit more than 0.16 gr/dscf (0.36 g/dscm) of particulate matter corrected to 12 percent CO<sub>2</sub>, maximum 2 h average.</p> <p>Verify that large and special incinerators do not emit more than 0.08 gr/dscf (0.18 g/dscm) of particulate matter corrected to 12 percent CO<sub>2</sub>, maximum 2 h average.</p>



<b>COMPLIANCE CATEGORY:</b> <b>AIR EMISSIONS MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<b>AE.30.</b> <b>MEDICAL WASTE INCINERATORS</b>  <b>AE.30.1.RI.</b> Pathological incinerators must limit particulate emissions (CRIR 12 031 01 (12.3.2)) [Added March 1998].	Verify that pathological incinerators do not emit more than 0.08 gr/dscf (0.18 g/dscm) of particulate matter corrected to 12 percent CO <sub>2</sub> , maximum 2 h average.



<b>COMPLIANCE CATEGORY:</b> <b>AIR EMISSIONS MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<b>AE.45.</b> <b>SEWAGE SLUDGE INCINERATORS</b>  <b>AE.45.1.RI.</b> Sewage sludge incinerators must limit particulate emissions (CRIR 12 031 012 (12.3.3)) [Added March 1998].	Verify that no person constructs, installs, uses or causes to be used any sewage sludge incinerator that will emit more than 1.30 lb of particulate matter per ton of dry sludge input.



**COMPLIANCE CATEGORY:  
AIR EMISSIONS MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>AE.55. GASOLINE/FUELS</b></p> <p><b>AE.55.1.RI.</b> Installations/CW facilities must not use, sell, or store high-sulfur fuel (CRIR 12 031 008) [Revised March 1998].</p>	<p>Verify that, unless the Director declares in writing after a hearing that a shortage of low sulfur fuel exists, installations/CW facilities do not use, sell, or store high-sulfur fuel.</p> <p>(NOTE: Exemptions to this prohibition include the following:</p> <ul style="list-style-type: none"> <li>- fuels included in an emissions bubble</li> <li>- marine vessels or motor vehicles</li> <li>- any fuel-burning device with a rated energy input capacity of 250 MBtu/h or more provided that: <ul style="list-style-type: none"> <li>- the high sulfur fuel is coal</li> <li>- the average sulfur content does not exceed 1.21 lb/MBtu heat release potential in any 30 day period of 2.31 lb/MBtu in any 24-h period</li> <li>- the stack height, from which emissions resulting from the burning of the high sulfur fuel exit, meets or exceeds good engineering practice</li> <li>- emissions resulting from the use of the high sulfur fuel will not cause a violation of any National Ambient Air Quality Standard or any applicable PSD increment and will not have a significant impact on any nonattainment area.)</li> </ul> </li> </ul>



<b>COMPLIANCE CATEGORY:</b> <b>AIR EMISSIONS MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<b>AE.60.</b> <b>PRINTING PRESSES AND GRAPHIC ARTS</b>	<p>(NOTE: This section applies to all roll, specialty, rotogravure, and flexographic printing facilities whose potential to emit volatile organic compounds from printing operations is or ever has been, equal to or greater than 50 tons/yr comply with these regulations. Printing operations include but are not limited to printing, drying, mixing and any other functions associated with printing. These requirements do not apply to any equipment in a facility used exclusively for chemical or physical analysis or determination of product quality and commercial acceptance provided that the operation of the equipment is not an integral part of the production process and the total actual emissions from all such equipment at the facility do not exceed 204 kg (450 lb) in any calendar month.)</p> <p>(NOTE: Wherever the term "volatile organic compound" or "VOC" is used, this term should be read as "volatile organic compound and halogenated organic compound" or "VOC and HOC".)</p>
<b>AE.60.1.RI.</b> Printing facilities must comply with specific operating requirements (CRIR 12 031 021(21.3)).	<p>Verify that rotogravure, flexographic, or specialty printing facilities employing solvent-containing ink operate unless one of the following is complied with at all times:</p> <ul style="list-style-type: none"> <li>- the volatile fraction of ink, as it is applied to the substrate, contains not more than 25.0 percent by volume of organic solvent and not less than 75.0 percent by volume of water</li> <li>- the ink as it is applied to the substrate, less water, contains not less than 60.0 percent by volume of nonvolatile material (solids)</li> <li>- there is installed one or more approved volatile organic compound control device(s), which is certified to achieve at least a 90 percent reduction efficiency as measured across each control device</li> <li>- an alternative measure is employed which has been demonstrated to the satisfaction of the Director to have a volatile organic compound emission reduction at least equivalent.</li> </ul> <p>Verify that, if emissions control is used to meet the requirements of this checklist item, a capture system is used in conjunction with the emission control devices.</p> <p>Verify that the design and operation of a capture system are consistent with good engineering practice, and, in conjunction with the control device, provide for an overall reduction in volatile organic compound emissions at each printing press of at least:</p> <ul style="list-style-type: none"> <li>- 75.0 percent where publication rotogravure printing process is employed</li> <li>- 65.0 percent where packaging rotogravure printing process or specialty printing process is employed</li> <li>- 60.0 percent where flexographic printing process is employed.</li> </ul>

**COMPLIANCE CATEGORY:  
AIR EMISSIONS MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>AE.60.2.RI.</b> Printing facilities must comply with recordkeeping requirements (CRIR 12 031 021(21.7.1.a through d)).</p>	<p>Verify that the printing facility maintains the following information at the facility at all times and that this information is kept current and made available to the DEM or USEPA upon request:</p> <ul style="list-style-type: none"> <li>- printing coating press number</li> <li>- hours of operation per day or per year</li> <li>- method of application</li> <li>- number and types of inks coats applied to the substrate</li> <li>- drying method</li> <li>- substrate type.</li> </ul> <p>Verify that, for each ink coating, the printing facility maintains the following information:</p> <ul style="list-style-type: none"> <li>- supplier name, ink coating name and identification number</li> <li>- ink coating density (lb/gal)</li> <li>- total volatile content of ink coating as supplied (vol percent)</li> <li>- water content of ink coating as supplied (wt percent)</li> <li>- exempt solvent content of ink coating as supplied (wt percent)</li> <li>- solids content of ink coating as supplied (wt percent)</li> <li>- name of diluent, if any</li> <li>- identification number of diluent.</li> </ul> <p>Verify that the printing facility maintains the following information for any diluent and solvents used for cleanup operations:</p> <ul style="list-style-type: none"> <li>- diluent solvent density (lb/gal)</li> <li>- VOC content of diluent (wt percent)</li> <li>- exempt solvent content of diluent (wt percent)</li> <li>- diluent/coating ratio (gal diluent/gal coating).</li> </ul> <p>Verify that the printing facility keeps the following records onsite for each printing coating press on a daily basis:</p> <ul style="list-style-type: none"> <li>- printing coating press number</li> <li>- time period</li> <li>- ink coating identification number</li> <li>- amount of ink coating used (gal)</li> <li>- diluent identification number</li> <li>- amount of diluent used (gal).</li> </ul> <p>Verify that all records and reports are maintained by the printing facility for no less than 5 yr.</p>

**COMPLIANCE CATEGORY:  
AIR EMISSIONS MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>AE.60.3.RI.</b> Printing facilities with add-on controls must comply with additional recordkeeping requirements (CRIR 12 031 021(21.7.1.e)).</p>	<p>Verify that the additional recordkeeping and reporting for printing facilities with add-on control are performed:</p> <ul style="list-style-type: none"> <li>- control device identification number and model number</li> <li>- manufacturer</li> <li>- installation date</li> <li>- printing press(es) controlled</li> <li>- whether or not the control device is always in operation when the press(es) it is serving is in operation</li> <li>- type of control device</li> <li>- destruction or removal efficiency</li> <li>- date tested (if not tested, method of determining destruction efficiency)</li> <li>- for thermal incinerators-design combustion temperature (°F)</li> <li>- for catalytic incinerators-design exhaust gas temperature (°F), design temperature rise across catalyst bed (°F), anticipated frequency of catalyst change, and catalyst changes</li> <li>- for a condenser-design inlet temperature of cooling medium (°F), design exhaust gas temperature (°F)</li> <li>- for a carbon adsorber-design pressure drop across the adsorber, VOC concentration at breakthrough</li> <li>- emission test results-inlet VOC concentration (ppm), outlet VOC concentration (ppm), method of concentration determination, date of determination</li> <li>- type and location of capture system</li> <li>- capture efficiency (percent)</li> <li>- method of determining capture efficiency.</li> </ul> <p>Verify that the printing facility continuously monitors and records at least the following parameters:</p> <ul style="list-style-type: none"> <li>- for thermal incinerators: exhaust gas temperature (°F)</li> <li>- for catalytic incinerators: exhaust gas temperature (°F), temperature rise across the catalyst bed (°F)</li> <li>- for condensers: inlet temperature of cooling medium (°F), exhaust gas temperature (°F)</li> <li>- for carbon adsorbers: pressure drop across the adsorber, hydrocarbon levels for breakthrough.</li> </ul>



**COMPLIANCE CATEGORY:  
AIR EMISSIONS MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>AE.65. FUGITIVE EMISSIONS</b></p> <p><b>AE.65.1.RI.</b> Installations/ CW facilities must limit fugitive dust emissions (CRIR 12 031 005) [Revised March 1998].</p>	<p>(NOTE: Fugitive dust emissions limitations apply to the following:</p> <ul style="list-style-type: none"> <li>- the demolition, construction, or renovation of buildings, bridges, and other structures</li> <li>- material stockpiles, including solid waste management facilities, and earth-moving activities, including the clearing of land and other operations causing airborne particulate matter</li> <li>- stationary sources whose activities involve the handling of materials causing airborne particulate matter</li> <li>- exterior surface preparation/resurfacing operations conducted on buildings, bridges, or other structures not regulated by lead-based paint removal requirements</li> <li>- surface preparation/resurfacing operations conducted on vehicles, vessels, or other surfaces causing airborne dust</li> <li>- vehicles transporting materials causing airborne dust</li> <li>- paved roads onto which earth or other material has been deposited by trucking or earth-moving equipment, by water erosion, by sanding, by salting of roadways, and/or by other means</li> <li>- commercial mining and/or quarrying operations including the construction, maintenance, and operation of a commercial mining and/or quarrying facility, as well as activities involving the use of explosive materials causing airborne particulate matter</li> <li>- other activities specified by the Director.)</li> </ul> <p>Verify that installations/CW facilities do not allow materials to be handled, transported, mined, quarried, stored, or otherwise utilized in a manner that causes airborne particulate matter to travel beyond property lines.</p> <p>(NOTE: The term <i>materials</i> includes sand, gravel, aggregate, and other organic or inorganic matter capable of releasing dust.)</p>



**COMPLIANCE CATEGORY:  
AIR EMISSIONS MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>DRY CLEANING OPERATIONS</b></p> <p><b>AE.75. Perchloroethylene</b></p> <p><b>AE.75.1.RI.</b> Perchloroethylene dry cleaning machines installed after 1 August 1988 must be equipped with a totally enclosed refrigerated condenser system (CRIR 12 031 022(22.6.1)).</p> <p><b>AE.75.2.RI.</b> Perchloroethylene dry cleaning machines installed on or before 1 August 1988 must be equipped with specified control devices (CRIR 12 031 022(22.6.2)) [Revised March 1998].</p>	<p>(NOTE: Requirements for perchloroethylene dry cleaning machines are included in this section. Machines may also be subject to the requirements of the Air Toxics subsection in AE.5.)</p> <p>Verify that any perchloroethylene dry cleaning machine installed after 1 August 1988 is equipped with a totally enclosed refrigerated condenser system which does not require venting to the atmosphere.</p> <p>(NOTE: Perchloroethylene dry cleaning machines installed prior to 1 August 1988 that are shutdown for a period longer than 3 mo after 1 August 1988 must also comply with these requirements. Compliance with this requirement must be achieved upon startup.)</p> <p>Verify that the door of a totally enclosed unit is not opened until the air-vapor stream temperature in the refrigerated condenser is less than or equal to 40 °F (4.4 °C).</p> <p>Verify that all perchloroethylene dry cleaning machines installed on or before 1 August 1988 are equipped with one of the following control devices:</p> <ul style="list-style-type: none"> <li>- a carbon adsorber, provided that perchloroethylene emissions from the carbon adsorber do not exceed 20 ppmv at any time and the following conditions are met: <ul style="list-style-type: none"> <li>- the dryer exhaust, washing door loading vents, chemical separator vents, and floor vents are ducted to the carbon adsorber</li> <li>- if distillation units and storage tanks are equipped with exhaust systems, these exhausts also are ducted to the carbon adsorber</li> </ul> </li> <li>- a refrigerated condenser system, provided that the condenser system is closed to the atmosphere except when articles are being loaded or unloaded and that the temperature at the condenser outlet is less than or equal to 40 °F</li> <li>- an azeotropic device which includes a carbon canister afterfilter to control washer door loading vents, keeping perchloroethylene emissions from exceeding 20 ppmv, so long as venting of perchloroethylene containing exhaust can occur only when the machine door is opened to load or unload articles</li> <li>- another system, demonstrated to have a control efficiency equivalent to or greater than that required of the refrigerated condenser system required above and approved by the Department.</li> </ul> <p>(NOTE: Perchloroethylene dry cleaning facilities in operation on 19 November 1998 can be exempted from this requirement upon demonstration that the facility</p>

**COMPLIANCE CATEGORY:  
AIR EMISSIONS MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>AE.75.3.RI.</b> Emissions from perchloroethylene dry cleaning machines must be vented through a vertical stack (CRIR 12 031 022(22.6.3)).</p>	<p>does not exceed the acceptable ambient limits as specified in Appendix 1-4.)</p> <p>Verify that emissions from all perchloroethylene dry cleaning machines, with the exception of those equipped with a totally enclosed refrigerated condenser system, are vented through a vertical stack which extends at least 6 ft above the building's roof line.</p> <p>Verify that the stack is not equipped with a cap, elbow, or another device that would interfere with the vertical discharge of the exhaust.</p> <p>(NOTE: The Director may require that a stack be extended higher than 6 ft or that the location of a stack on a roof be changed if the stack location causes excessive exposure to neighbors. Dry cleaning facilities located in buildings which are higher than two stories may apply to the Director for an exemption from this requirement.)</p> <p>(NOTE: Perchloroethylene dry cleaning facilities in operation on 19 November 1998 can be exempted from this requirement upon demonstration that the facility does not exceed the acceptable ambient limits as specified in Appendix 1-4.)</p>
<p><b>AE.75.4.RI.</b> Dry cleaning machines using carbon adsorbers must comply with specific requirements (CRIR 12 031 022(22.6.4)).</p>	<p>Verify that any dry cleaning facility which uses a carbon adsorber to comply with control device requirements complies with the following requirements:</p> <ul style="list-style-type: none"> <li>- the carbon bed is regenerated at least once each time the dry cleaning machines vented to that carbon bed process the number of pounds of articles calculated by the following equation: (5 times the number of pounds of carbon in bed) divided by 3</li> <li>- desorption is performed with a steam pressure of 8 to 10 lb/psi</li> <li>- no bypass to the atmosphere is permitted during the steam phase of the desorption cycle.</li> </ul>
<p><b>AE.75.5.RI.</b> Dry cleaning machine using a refrigerated condenser must comply with specific requirements (CRIR 12 031 022(22.6.5)).</p>	<p>Verify that any dry cleaning facility which uses a refrigerated condenser to comply with control device requirements installs and operates a temperature gauge to monitor the temperature of the cooled gas stream as follows:</p> <ul style="list-style-type: none"> <li>- for dry cleaning machines which vent to the atmosphere, the temperature gauge is installed at the condenser outlet, in order to monitor the temperature of the gas exit stream, and the following conditions are met: <ul style="list-style-type: none"> <li>- hole is also provided at the outlet for testing by the Division</li> <li>- this hole is covered at all times except during tests</li> </ul> </li> <li>- for dry cleaning machines which are totally enclosed and do not require venting to the atmosphere, the temperature gauge is installed immediately</li> </ul>

**COMPLIANCE CATEGORY:  
AIR EMISSIONS MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>AE.75.6.RI.</b> Dry cleaning machines using an azeotropic device must comply with specific requirements (CRIR 12 031 022(22.6.6)).</p>	<p>after the condensing coils (the gauge measures the air-vapor temperature within the dry cleaning machine).</p> <p>Verify that any dry cleaning facility which uses an azeotropic device to comply with control device requirements complies with the following requirements:</p> <ul style="list-style-type: none"> <li>- the dryer or dry-to-dry cleaning machine is equipped with temperature gauges at the condensing coil which measure the inlet and outlet temperature of the condensing water, and the temperature difference conforms to manufacturer's specifications</li> <li>- the dryer or dry-to-dry cleaning machine is equipped with a temperature gauge on the lint trap door, and the temperature conforms to manufacturer's specifications</li> <li>- the lint bag is changed each time the dry cleaning machine processes three loads of garments.</li> </ul>
<p><b>AE.75.7.RI.</b> All perchloroethylene dry cleaning facilities must comply with specific operating requirements (CRIR 12 031 022(22.6.7.a through e)).</p>	<p>Verify that all new and existing perchloroethylene dry cleaning facilities are in compliance with the following operating requirements:</p> <ul style="list-style-type: none"> <li>- the residue from any diatomaceous earth filter is cooked or treated so that wastes do not contain more than 25 kg (55 lb) of perchloroethylene per 100 kg (220 lb) of wet waste material</li> <li>- the residue from a solvent-still contains no more than 60 kg (132 lb) of perchloroethylene per 100 kg (220 lb) of wet waste material</li> <li>- filtration cartridges are drained in the filter housing for at least 24 h or vented to the control device for 12 h before being disposed of</li> <li>- all perchloroethylene-containing waste is stored in sealed containers</li> <li>- the dry cleaning facility is maintained so as to prevent the leaking of liquid perchloroethylene and prevent vapor losses.</li> </ul>
<p><b>AE.75.8.RI</b> Installations/CW facilities must inspect perchloroethylene dry cleaning facilities (CRIR 12 031 022(22.6.7.e through h)).</p>	<p>Verify that the owner or operator of a perchloroethylene dry cleaning facility inspect the facility for leaks at least once per week.</p> <p>Verify that liquid leaks are detected by means of a visual inspection and vapor leaks are detected using a portable halogenated-hydrocarbon detector.</p> <p>Verify that the following components are included in inspections:</p> <ul style="list-style-type: none"> <li>- hose connections, unions, couplings, and valves</li> <li>- machine door gaskets and seatings</li> <li>- filter head gasket and seating</li> <li>- pumps</li> </ul>

<b>COMPLIANCE CATEGORY:</b> <b>AIR EMISSIONS MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<p><b>AE.75.9.RI</b> Dry cleaning facilities must comply with recordkeeping requirements (CRIR 12 031 022(22.6.9)).</p>	<ul style="list-style-type: none"> <li>- base tanks and storage containers</li> <li>- water separators</li> <li>- filter sludge recovery</li> <li>- distillation unit</li> <li>- saturated lint from lint basket</li> <li>- cartridge filters.</li> </ul> <p>Verify that all leaks of perchloroethylene liquid or vapor are repaired immediately upon detection if no new parts are needed.</p> <p>(NOTE: If parts are needed, a purchase order for parts must be issued within 3 working days and the repair made as expeditiously as possible.)</p> <p>Verify that any liquid perchloroethylene that is drained from water separators on reclaimers, dry-to-dry units or carbon adsorbers is collected through a collection tube in containers which have a single small hole for the collection tube and that do not have other gaps or holes.</p> <p>Verify that diverter valves and dampers are inspected monthly to ensure proper containment of perchloroethylene vapors.</p> <p>Verify that installations/CW facilities with a perchloroethylene dry cleaning facility maintains the following records in a readily accessible location for at least 5 yr and makes these records available to the Department upon verbal or written request:</p> <ul style="list-style-type: none"> <li>- amount of perchloroethylene used per year</li> <li>- amount of garments processed per year</li> <li>- results of weekly inspections, and records of the date when each leak was detected, the date when each leak was repaired, and purchase orders for repair parts</li> <li>- frequency and period of each desorption and the pounds of clothes cleaned during each adsorption</li> <li>- record of control equipment maintenance, such as replacement of the carbon in a carbon adsorption unit</li> <li>- results of all tests.</li> </ul>

<b>COMPLIANCE CATEGORY:</b> <b>AIR EMISSIONS MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<b>COATING OPERATIONS</b>  <b>AE.100.</b> <b>General</b>	<p>(NOTE: The section applies to all surface coating facilities for which actual uncontrolled emissions from all operations in any one of the surface coating categories listed in Appendix 1-5 have been greater than 15 lb of volatile organic compounds in any one day after 31 December 1989, except that a surface coating facility whose emissions are below the applicability threshold is required to comply with the certification, recordkeeping, and reporting requirements.)</p> <p>(NOTE: Any facility that was subject to the provisions of this regulation on or before 19 November 1992 by having or having had the potential to emit 100 tons of VOC per year from paper, fabric, or vinyl coating or becomes subject to the provisions of this regulation after 19 November 1992 by exceeding the applicability threshold will remain subject to these provisions even if its emissions later fall below the applicability threshold.)</p> <p>(NOTE: Whenever the term volatile organic compound or VOC is used, this term should be read as volatile organic compound and halogenated organic compound or VOC and HOC.)</p>
<b>AE.100.1.RI.</b> VOC sources must register with the Division (CRIR 12 031 019(19.6.1)).	<p>Verify that coating operations register annually with the Division of Air and Hazardous Materials.</p> <p>Verify that, no later than 45 days following the end of a calendar year, the following information is submitted on forms supplied by the Director:</p> <ul style="list-style-type: none"> <li>- name and address of the company and the name and telephone number of a responsible corporate official submitting the registration</li> <li>- description of all operations in the facility where volatile organic compounds are emitted</li> <li>- quantities of coatings, solvents, dissolvers, viscosity reducers, diluents, thinners, reagents, cleaning agents, enamels, lacquers, or paints consumed during the calendar year of record</li> <li>- amount of volatile organic compound per gallon of coating solution (pounds per gallon) for each coating, enamel, lacquer, or paint consumed at the facility during the calendar year of record.</li> </ul>
<b>AE.100.2.RI.</b> Surface coating operations must limit VOC emissions (CRIR 12 031 019(19.3.1 and 19.3.2) [Revised March 1998].	<p>Verify that surface coating lines comply with the emission limitations in Appendix 1-5 in either pounds of VOC per gallon of coating (minus water) or in pounds of VOC per gallon of solids, depending on the method of compliance.</p> <p>Verify that compliance with the emission limitations of Appendix 1-5 is achieved through:</p>

**COMPLIANCE CATEGORY:  
AIR EMISSIONS MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>AE.100.3.RI.</b> Exempt operations (emitting less than 15 lb/day VOC) must comply with specific notification requirements (CRIR 12 031 019(19.5.1.a)) [Revised March 1998].</p>	<ul style="list-style-type: none"> <li>- installation of an approved control system so that the total emission reduction from the controlled coating line is 95 percent or greater over uncontrolled volatile organic compound emissions</li> <li>- coating reformulation so that the emission limitations are met for all coatings on any coating lines using this method of compliance</li> <li>- installation of control equipment to reduce emissions to the equivalent of the emission limitations as calculated on a solids applied basis</li> <li>- use of daily-weighted averaging to achieve the emissions limitations for all surface coating operations except the coating of flat wood paneling</li> <li>- an alternative equivalent method of control as approved by the Director.</li> </ul> <p>(NOTE: Notification requirements apply to coating lines or operations that are exempt from the emission limitations because the VOC emissions from all operations in any one of the surface coating categories listed in Appendix 1-5 have not exceeded 15 lb/day, before the application of capture systems and control devices, on any day since 31 December 1989.)</p> <p>Verify that exempt sources certify to the Director that they are exempt by providing the following:</p> <ul style="list-style-type: none"> <li>- name and location of the facility</li> <li>- name, address, and telephone number of the person responsible for the facility</li> <li>- a declaration that the facility is exempt from the emission limitations because the facility's VOC emissions from all operations on each of the surface coating categories have not exceeded 15 lb/day, before the application of capture systems and control devices, on any day since 31 December 1989</li> <li>- calculations that demonstrate that the combined VOC emissions from all coating lines and operations at the facility for each of the surface coating categories for a day representative of current maximum production levels are 15 lb or less before the application of capture systems and control devices</li> </ul>
<p><b>AE.100.4.RI.</b> Exempt operations (emitting less than 15 lb/day VOC) must comply with specific reporting requirements (CRIR 12 031 019(19.5.1.b)).</p>	<p>Verify that exempt sources collect and record all of the following information each year and maintains the information at the facility for a period of 5 yr:</p> <ul style="list-style-type: none"> <li>- name and identification number of each coating, as applied</li> <li>- mass of VOC per volume (excluding water) and the volume of coating (excluding water), as applied, used each year</li> <li>- total VOC emissions from coating lines and operations associated with each of the surface coating categories, before the application of capture systems and control devices</li> <li>- type and amount of solvent used for diluents and cleanup operations.</li> </ul>

**COMPLIANCE CATEGORY:  
AIR EMISSIONS MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>AE.100.5.RI.</b> Coating operations complying with VOC emission limits by using daily weighted-averaging must meet initial certification requirements (CRIR 12 031 019(19.5.2.a)).</p>	<p>Verify that the Director is notified of any record showing that VOC emissions from all operations in any one of the surface coating categories, before the application of capture systems and control devices, exceed 15 lb on any day.</p> <p>Verify that coating lines which intend to comply with VOC emission limits by using daily weighted-averaging submit an Initial Compliance Certification Plan which includes:</p> <ul style="list-style-type: none"> <li>- name and location of the facility</li> <li>- name, address and telephone number of the person responsible for the facility</li> <li>- identification of subject sources</li> <li>- the name and identification number of each coating line or operation which will comply by means of daily-weighted averaging</li> <li>- the instrument or method by which the owner or operator will accurately measure or calculate the volume of each coating (excluding water), as applied, used each day on each coating line or operation</li> <li>- the method by which the owner or operator will create and maintain records each day</li> <li>- time at which the facility's day begins if a time other than midnight local time is used to define a day.</li> </ul> <p>(NOTE: Initial Compliance Certification Plans must be submitted upon startup of a new coating line or operation, or upon changing the method of compliance for an existing coating line or operation from daily-weighted averaging or control devices to the use of complying coatings.)</p>
<p><b>AE.100.6.RI.</b> Coating operations which comply with VOC limitations by using daily weighted-averaging must provide Final Compliance Certification (CRIR 12 031 019(19.5.2.b)) [Revised March 1998].</p>	<p>Verify that sources using daily weighted-averaging have submitted a final compliance certification to the Director which includes:</p> <ul style="list-style-type: none"> <li>- the name, identification number, mass of VOC per volume (minus water) and the volume of each coating (minus water), as applied, on each coating line or operation and the calculation of the daily-weighted average for each day of the previous month</li> <li>- the name, identification number, mass of VOC per volume (minus water) and the volume of each coating (minus water), as applied, on each coating line or operation, the density of each coating as applied, and the volume fraction solids content of each coating, as applied and the calculation of the daily-weighted average for each day of the previous month</li> <li>- an identification of any changes from the initial compliance certification plan.</li> </ul> <p>(NOTE: New coating operations must be in compliance upon commencement of</p>

<b>COMPLIANCE CATEGORY:</b> <b>AIR EMISSIONS MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<p><b>AE.100.7.RI.</b> Coating operations using daily weighted-averaging must also comply with reporting requirements (CRIR 12 031 019(19.5.2.c)).</p>	<p>operations.)</p> <p>Verify that coating lines which intend to comply with VOC emission limits by using daily weighted-averaging collect and record all of the following information each month:</p> <ul style="list-style-type: none"> <li>- name and identification number of each coating, as applied, on each coating line or operation</li> <li>- mass of VOC per volume of each coating (excluding water), as applied, used each month on each coating line or operation</li> <li>- the daily weighted-average of all coatings as applied</li> <li>- type and amount of solvent used for diluents and cleanup operations.</li> </ul> <p>Verify that records are maintained onsite for 5 yr.</p>
<p><b>AE.100.8.RI.</b> Coating operations using daily weighted-averaging must notify Director of use of noncompliance coatings or change in method of compliance (CRIR 12 031 019(19.5.2.d)).</p>	<p>Verify that coating lines which intend to comply with VOC emission limits by using daily weighted-averaging notify the Director:</p> <ul style="list-style-type: none"> <li>- of any record showing use of any noncomplying coatings by sending a copy of such record to the Director within 30 calendar days following that use</li> <li>- at least 30 calendar days before changing the method of compliance from the use of daily-weighted averaging to complying coatings or control devices.</li> </ul>
<p><b>AE.100.9.RI.</b> Coating operations meeting VOC emission limits by using complying coatings must meet initial certification requirements (CRIR 12 031 019(19.5.3.a)).</p>	<p>Verify that coating lines which intend to comply with VOC emission limits by the use of complying coatings submit an Initial Compliance Certification Plan which includes:</p> <ul style="list-style-type: none"> <li>- name and location of the facility</li> <li>- name, address, and telephone number of the person responsible for the facility</li> <li>- identification of subject sources</li> <li>- name and identification number of each coating, as applied, on each coating line or operation</li> <li>- mass of VOC per volume coating (excluding water) and the volume of each coating (excluding water), as applied</li> <li>- time at which the facility's day begins if a time other than midnight local time is used to define a day.</li> </ul> <p>(NOTE: Initial Compliance Certification Plans must be submitted upon startup of a new coating line or operation, or upon changing the method of compliance for an existing coating line or operation from daily-weighted averaging or control</p>

**COMPLIANCE CATEGORY:  
AIR EMISSIONS MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>AE.100.10.RI.</b> Coating operations which comply with VOC limitations by using complying coatings must provide Final Compliance Certification (CRIR 12 031 019(19.5.3.b)).</p>	<p>devices to the use of complying coatings.)</p> <p>Verify that sources that intend to comply with VOC emission limits by the use of complying coatings submit a final compliance certification to the Director that includes:</p> <ul style="list-style-type: none"> <li>- the name, identification number, mass of VOC per volume (minus water), and the volume of each coating (minus water), as applied, on each coating line</li> <li>- an identification of any changes from the initial compliance certification plan.</li> </ul> <p>(NOTE: New coating operations must be in compliance upon commencement of operations.)</p>
<p><b>AE.100.11.RI.</b> Coating operations using complying coatings must also comply with reporting requirements (CRIR 12 031 019(19.5.3.c)).</p>	<p>Verify that coating lines which intend to comply with VOC emission limits by the use of complying coatings collect and records all of the following information each month for each coating line or operation:</p> <ul style="list-style-type: none"> <li>- name and identification number of each coating, as applied, on each coating line or operation</li> <li>- mass of VOC per volume of each coating (excluding water), as applied, used each month on each coating line or operation</li> <li>- type and amount of solvent used for diluents and cleanup operations.</li> </ul> <p>Verify that records are maintained onsite for 5 yr.</p>
<p><b>AE.100.12.RI.</b> Coating operations using complying coatings must notify Director of the use of noncompliance coatings or a change in method of compliance (CRIR 12 031 019(19.5.3.d)).</p>	<p>Verify that coating lines that intend to comply with VOC emission limits by the use of complying coatings notify the Director:</p> <ul style="list-style-type: none"> <li>- of any record showing use of any noncomplying coatings by sending a copy of such record to the Director within 30 calendar days following that use</li> <li>- at least 30 calendar days before changing the method of compliance from the use of complying coatings to daily-weighted averaging or control devices.</li> </ul>
<p><b>AE.100.13.RI.</b> Coating operations which comply with VOC limitations by using control devices must provide an Initial Compliance</p>	<p>Verify that coating operations complying by the use of control devices have submitted an Initial Compliance Certification Plan or submit one upon startup of a new coating line or operation, or upon changing the method of compliance for an existing coating line or operation from the use of complying coatings or daily-</p>



**COMPLIANCE CATEGORY:  
AIR EMISSIONS MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>AE.100.15.RI.</b> Coating lines which comply with VOC emission limitations by using control devices must comply with informational requirements (CRIR 12 031 019(19.5.4.c)) [Revised March 1998].</p>	<p>operations.)</p> <p>Verify that installations/CW facilities with a coating line or operation using control devices collects and records all of the following information each month for each coating line or operation and maintains the information at the facility for a period of 5 yr:</p> <ul style="list-style-type: none"> <li>- name and identification number of each coating used on each coating line or operation</li> <li>- for sources that use control devices to reduce emissions by 95 percent, the mass of VOC per unit volume of coating solids, as applied, the volume solids content, as applied, and the volume, as applied, of each coating used each month on each coating line or operation</li> <li>- for sources that use control devices to reduce emissions to the emissions limits in Appendix 1-5: the maximum VOC content (mass of VOC per unit volume of coating solids, as applied) or the daily-weighted average VOC content (mass of VOC per unit volume of coating solids, as applied) of the coatings used each day on each coating line or operation</li> <li>- type and amount of solvent used for diluents and cleanup operations</li> <li>- log of operating time for the capture system, control device, monitoring equipment, and the associated coating line or operation</li> <li>- maintenance log for the capture system, control device, and monitoring equipment detailing all routine and nonroutine maintenance performed including dates and duration of any outages</li> <li>- for thermal incinerators: <ul style="list-style-type: none"> <li>- all 3 h periods of operation in which the average combustion temperature was more than 28 °C (50 °F) below the average combustion temperature during the most recent performance test that demonstrated that the facility was in compliance</li> <li>- operating temperature</li> </ul> </li> <li>- for catalytic incinerators: <ul style="list-style-type: none"> <li>- all periods where the temperature increase across the catalyst bed is less than 80 percent of the temperature increase recorded during the most recent performance test that demonstrated that the facility was in compliance</li> <li>- inlet and outlet temperatures and temperature rise across the catalyst bed</li> </ul> </li> <li>- for carbon adsorbers: <ul style="list-style-type: none"> <li>- all 3 h periods of operation during which the average VOC concentration or reading of organics in the exhaust gases is more than 20 percent greater than the average exhaust gas concentration or reading measured by the organics monitoring device during the most recent determination of the recovery efficiency of the carbon adsorber that demonstrated that the facility was in compliance</li> <li>- pressure drop across the adsorber and the hydrocarbon levels for</li> </ul> </li> </ul>

<b>COMPLIANCE CATEGORY:</b> <b>AIR EMISSIONS MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<p><b>AE.100.16.RI.</b> Coating lines complying with RACT by using control devices must notify the Director of noncompliance or changes in compliance (CRIR 12 031 019(19.5.4.d)) [Revised March 1998].</p> <p><b>Architectural and Industrial Maintenance Coatings</b></p> <p><b>AE.100.17.RI.</b> Architectural coatings must comply with labeling requirements (CRIR 12 031 033(33.4.1)).</p>	<p>breakthrough.</p> <p>Verify that installations/CW facilities with a coating line using control devices notify the Director:</p> <ul style="list-style-type: none"> <li>- of any record showing noncompliance with the applicable requirements for control devices by sending a copy of the record to the Director within 30 calendar days following the occurrence</li> <li>- at least 30 calendar days before changing the method of compliance from control devices to the use of complying coatings or daily-weighted averaging.</li> </ul> <p>(NOTE: This section applies to any person who sells, or applies architectural or industrial maintenance coating or who manufactures architectural or industrial maintenance coating for sale within the state of Rhode Island. The provisions of this regulation do not apply to the following:</p> <ul style="list-style-type: none"> <li>- architectural coatings and industrial maintenance coatings that are sold offered for sale or manufactured in Rhode Island for shipment and use outside of Rhode Island</li> <li>- architectural coatings supplied in containers having capacities of 1 qt or less</li> <li>- architectural coatings sold in nonrefillable aerosol containers having capacities of 1 L or less</li> <li>- any architectural coating or industrial maintenance coating that is registered with the USEPA as a pesticide product.)</li> </ul> <p>(NOTE: Wherever the term VOC is used, this term is read as VOC and HOC.)</p> <p>Verify that no person sells or applies any architectural coating or industrial maintenance coating in Rhode Island unless the label on the coating's container displays the following:</p> <ul style="list-style-type: none"> <li>- manufacturing date of the contents of the container or a code indicating the manufacturing date of the contents, if the manufacturer has supplied an explanation of each code to the Director</li> <li>- maximum volatile organic compound content of the coating, as applied, expressed as pounds of VOC per gallon of coating minus water and any colorant added to tint base</li> <li>- statement of the manufacturer's recommendation regarding thinning of the coating.</li> </ul> <p>(NOTE: If thinning of the coating prior to use is not necessary, the recommendations must state that the coating is to be applied without thinning</p>

<b>COMPLIANCE CATEGORY:</b> <b>AIR EMISSIONS MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<b>AE.100.18.RI.</b> Architectural coatings must comply with VOC content limits (CRIR 12 031 033(33.3.1)).	under normal environmental and application conditions. Thinning does not include dilution of architectural coatings with water.)  Verify that no person sells or applies architectural coating which has a volatile organic compound content, expressed in pounds of VOC per gallon of coating, as applied, minus water and any colorant added to tint bases, in excess of the limits specified in Appendix 1-6.



**COMPLIANCE CATEGORY:  
AIR EMISSIONS MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>DEGREASING OPERATIONS</b></p> <p><b>AE.115.</b> <b>General</b></p> <p><b>AE.115.1.RI.</b> Solvent cleaning machines must meet general requirements (CRIR 12 031 036 (36.4.1 through 36.4.13)) [Revised March 1998].</p>	<p>(NOTE: Wherever the term "volatile organic compound" or "VOC" appears in Sections AE.115 through AE.118, read this to mean "volatile organic compounds and halogenated organic compounds" or "VOC and HOC" (CRIR 12 031 036).)</p> <p>Verify that equipment covers and dipping or rotating baskets are constructed of nonporous or nonabsorbent material, and that covers form a tight seal with the sides of the solvent cleaning machine have no gaps or holes.</p> <p>Verify that, when the solvent cleaning machine cover is open, drafts at the same elevation as the tank lip are not greater than 40 m/min (130 ft/min) when measured 1 to 2 m (3 to 7 ft) upwind.</p> <p>Verify that leaks are repaired immediately or the solvent cleaning unit shutdown.</p> <p>Verify that equipment used in solvent cleaning shows a conspicuous summary of operating procedures consistent with minimizing emissions of VOCs.</p> <p>Verify that any solvent spray is a solid, fluid stream which is delivered at a pressure no greater than 10 lb/psi and which does not cause excessive splashing.</p> <p>Verify that spills are wiped up immediately, and that the wipe rags are stored in covered containers.</p> <p>Verify that no porous or absorbent materials, such as sponges, fabrics, wood, or paper products, are cleaned in an organic cleaning machine.</p> <p>Verify that parts baskets or parts are drained under the cover and are not removed from the cleaning machine for at least 15 s or until dripping ceases and the pieces are visually clean, whichever is longer.</p> <p>Verify that pans having cavities or blind holes are tipped or rotated while draining before being removed from the vapor zone.</p> <p>Verify that parts are oriented for best drainage.</p> <p>Verify that, when solvent is added to or drained from a solvent cleaning machine, the solvent is transferred using threaded or other leakproof couplings and the end of the pipe in the solvent sump is located beneath the liquid solvent surface.</p> <p>Verify that solvent, waste solvent, still bottoms, and sump bottoms are stored in covered containers and waste solvent transferal or disposal allow less than 20</p>

<b>COMPLIANCE CATEGORY:</b> <b>AIR EMISSIONS MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<p><b>AE.115.2.RI.</b> Operators of solvent cleaning machines must be trained (CRIR 12 031 036 (36.4.1 through 36.4.13)).</p> <p><b>AE.115.3.RI.</b> Solvent cleaning machines must meet monitoring requirements (CRIR 12 031 036 (36.9)) [Revised March 1998].</p>	<p>percent of the waste solvent (by weight) to evaporate into the atmosphere.</p> <p>Verify that each solvent cleaning machine and related air pollution control equipment is maintained as recommended by the manufacturer of the equipment.</p> <p>Verify that operators receive training in proper solvent cleaning procedures.</p> <p>(NOTE: If requested by representatives of the Division or the USEPA during an inspection, operators must complete and pass the applicable sections of the test on those procedures in Appendix 1-7.)</p> <p>Verify that solvent cleaning machine is monitored for the following parameters:</p> <ul style="list-style-type: none"> <li>- the cover of each batch vapor or in-line cleaning machine is visually inspected monthly to confirm that it is opening and closing properly, that it completely covers the cleaning machine's openings when closed, and that it is free of cracks, holes, and other defects</li> <li>- the speed of automated parts handling systems is monitored</li> <li>- if a refrigerated freeboard chiller is used, the temperature at the coldest point of the centroid of the chilled air blanket must be no greater than 30 percent of the solvent's boiling point, measured in °F, and be monitored weekly</li> <li>- if a superheated vapor system is used, the temperature of the solvent vapor at the centroid of the superheated vapor zone must be maintained at least 10 °F above the solvent's boiling point and be monitored weekly</li> <li>- if a carbon adsorber is used, the concentration of solvent in the exhaust shall not exceed 25 ppm</li> <li>- if dwell or a superheated vapor system is used, the actual dwell time must not exceed the minimum dwell time</li> <li>- safety switches are tested semiannually.</li> </ul> <p>(NOTE: Alternative monitoring procedures may be used if approved by the Director and the USEPA.)</p>

**COMPLIANCE CATEGORY:  
AIR EMISSIONS MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>DEGREASING OPERATIONS</b></p> <p><b>AE.116. Cold Cleaning</b></p> <p><b>AE.116.1.RI.</b> Batch cold cleaning operations must comply with specific operating and design requirements (CRIR 12 031 036(36.5)).</p>	<p>Verify that cleaning machines are equipped with an attached cover that can be operated easily with one hand.</p> <p>Verify that covers are closed at all times except during pans entry and removal.</p> <p>(NOTE: If the cold cleaning machine is equipped with a lip exhaust, the cover is to be located below the lip exhaust.)</p> <p>Verify that the solvent sump of a remote-reservoir batch cold cleaning machine is equipped with a tight fitting cover that is kept closed at all times except during the cleaning of parts.</p> <p>Verify that one of the following techniques is used to control solvent emissions from batch cold cleaning operations:</p> <ul style="list-style-type: none"> <li>- a freeboard ratio greater than or equal to 0.75</li> <li>- water cover of at least 4 in. in depth if the solvent is insoluble in and heavier than water</li> <li>- an equivalent system approved by the Director and the USEPA.</li> </ul> <p>Verify that, if a flexible hose or flushing device is used, flushing is performed only within the freeboard zone of the cold cleaning machine.</p> <p>Verify that, when an air or pump-agitated solvent bath is used, the agitator is operated so that a rolling motion of the solvent is produced and splashing against the tank or parts being cleaned does not occur.</p> <p>Verify that the height of solvent in a batch cold cleaner does not exceed the manufacturer's fill-line for that machine.</p>



**COMPLIANCE CATEGORY:  
AIR EMISSIONS MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>DEGREASING OPERATIONS</b></p> <p><b>AE.117. Vapor Cleaning</b></p> <p><b>AE.117.1.RI.</b> Batch vapor cleaning operations with solvent/air interfaces must meet specific operating and design requirements (CRIR 12 031 036(36.6.1 through 36.6.3, and 36.6.5)).</p> <p><b>AE.117.2.RI.</b> Vapor cleaning machines must be equipped with safety switches (CRIR 12 031 036(36.6.4)).</p> <p><b>AE.117.3.RI.</b> Vapor cleaning machines must have specific</p>	<p>Verify that vapor cleaning machines are equipped with a cover that can be easily operated without disturbing the vapor zone and that is attached to the vapor cleaning machine.</p> <p>Verify that covers are closed at all times except during parts entry and removal.</p> <p>(NOTE: If the batch vapor cleaning machine is equipped with a lip exhaust, the cover is located below the lip exhaust.)</p> <p>Verify that each vapor cleaning machine is equipped with a primary condenser.</p> <p>Verify that each vapor cleaning machine has a freeboard ratio of at least 0.75.</p> <p>Verify that each vapor cleaning machine which uses a solvent containing trichloroethylene, perchloroethylene, 1,1,1- trichloroethane, methylene chloride, chloroform, or carbon tetrachloride, is equipped with an automated parts handling system, such as, but not limited to, a hoist or conveyor, that maintains a vertical conveyor speed of less than 2 in./s (10 ft/min).</p> <p>Verify that each vapor cleaning machine is equipped with the following safety switches:</p> <ul style="list-style-type: none"> <li>- a condenser flow switch and thermostat to shutoff the heat to the solvent if the condenser coolant is not circulating</li> <li>- a vapor level control thermostat to shutoff the heat when the vapor level rises above the height of the primary cooling coil</li> <li>- if the cleaning machine is equipped with a spray apparatus, a spray safety switch to shutoff the spray pump if the vapor level drops more than 4 in. (10 cm) from the bottom of the primary condenser coil and to prevent spraying outside the vapor level</li> <li>- a low solvent level safety switch to shutoff the heating element if it should become exposed.</li> </ul> <p>Verify that any vapor cleaning machine that has a solvent/air interface of 13 ft<sup>2</sup> (1.21 m<sup>2</sup>) or less and uses a solvent containing trichloroethylene,</p>

**COMPLIANCE CATEGORY:  
AIR EMISSIONS MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
control equipment (CRIR 12 031 036(36.6.5 through 36.6.7)).	<p>perchloroethylene, 1,1,1-trichloroethane, methylene chloride, chloroform, or carbon tetrachloride is equipped with one of the following control combinations:</p> <ul style="list-style-type: none"> <li>- refrigerated freeboard chiller and superheated vapor system</li> <li>- refrigerated freeboard chiller and freeboard ratio of at least 1.0</li> <li>- refrigerated freeboard chiller and carbon adsorber</li> <li>- refrigerated freeboard chiller and dwell</li> <li>- another system of equivalent control that is approved by the Director and the USEPA.</li> </ul> <p>Verify that any vapor cleaning machine which has a solvent/air interface of greater than 13 ft<sup>2</sup> (1.21 m<sup>2</sup>) and uses a solvent containing trichloroethylene, perchloroethylene, 1,1,1-trichloroethane, methylene chloride, chloroform, or carbon tetrachloride is equipped with one of the following control combinations:</p> <ul style="list-style-type: none"> <li>- refrigerated freeboard chiller, freeboard ratio of at least 1.0, and superheated vapor system</li> <li>- refrigerated freeboard chiller, superheated vapor system, and carbon adsorber</li> <li>- another system of equivalent control that is approved by the Director and the USEPA.</li> </ul>
<b>AE.117.4.RI.</b> Vapor cleaning operations must comply with specific requirements (CRIR 12 031 036(36.6.8 through 36.6.12)).	<p>Verify that pieces are held in the vapor zone for at least 30 s or until condensation ceases, whichever is longer.</p> <p>Verify that the workload does not occupy more than half of the cleaning machine's open top area.</p> <p>Verify that the vapor level does not rise or drop more than 4 in. (10 cm) when the workload enters or is removed from the vapor zone.</p> <p>Verify that sprays are used only within the vapor zone.</p> <p>Verify that cleaning machines are operated so that water cannot be visually detected in the solvent exiting the water separator.</p>
<b>AE.117.5.RI</b> Vapor cleaning machines must comply with ventilation and exhaust requirements (CRIR 12 031 036(36.6.13 through 36.6.17)).	<p>Verify that each cleaning machine that uses a lip exhaust is designed and operated to route all collected solvent vapors through a properly operated and maintained carbon adsorber.</p> <p>Verify that the exhaust ventilation rate does not exceed 20 m<sup>3</sup>/min/m<sup>2</sup> (65 cfm per ft<sup>2</sup>) of solvent/air interface, unless necessary to meet OSHA requirements.</p> <p>(NOTE: If a carbon adsorber is used, the exhaust ventilation rate must be at least</p>

**COMPLIANCE CATEGORY:  
AIR EMISSIONS MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
	<p>15 m<sup>3</sup>/min/m<sup>2</sup> (50 cfm per ft<sup>2</sup>) of solvent/air interface.)</p> <p>Verify that, during startup of each vapor cleaning machine, the primary condenser is turned on before the sump heater.</p> <p>Verify that during shutdown of each vapor cleaning machine, the sump heater is turned off and the solvent vapor layer allowed to collapse before the primary condenser is turned off.</p> <p>Verify that, to minimize solvent carryout, pieces are removed from the vapor cleaning machine at a rate less than 2 in./s (10 ft/min).</p>
<p><b>AE.117.6.RI.</b> In-line cleaning machines must comply with operating and design requirement (CRIR 12 031 036(36.7.1 through 36.7.3, and 36.7.5)).</p>	<p>Verify that cleaning machines are equipped with covers that completely cover machine openings.</p> <p>Verify that covers are in place at all times when the conveyors and exhausts are not being operated.</p> <p>(NOTE: If the cleaning machine is equipped with a lip exhaust, the cover is located below the lip exhaust.)</p> <p>Verify that each in-line cleaning machine has a freeboard ratio of at least 0.75.</p> <p>Verify that each in-line vapor cleaning machine has a primary condenser.</p> <p>Verify that the automated parts handling system move parts at a speed of no more than 2 in./s (10 ft/min).</p>
<p><b>AE.117.7.RI.</b> In-line cleaning machines must have safety switches (CRIR 12 031 036(36.7.4)).</p>	<p>Verify that the following safety switches are installed and operated:</p> <ul style="list-style-type: none"> <li>- a condenser flow switch to shutoff the heat if the condenser coolant is not circulating</li> <li>- a vapor level control thermostat to shutoff the heat when the vapor level rises above the height of the primary cooling coils</li> <li>- if the cleaning machine is equipped with a spray apparatus, a spray safety switch to shutoff the spray pump or conveyor if the vapor level drops more than 4 in. (10 cm) from the bottom of the primary condenser coil and to prevent spraying outside the vapor level</li> <li>- a low solvent level safety switch to shutoff the heating element if it should become exposed.</li> </ul>
<p><b>AE.117.8.RI.</b> In-line</p>	<p>Verify that each in-line cleaning machine is equipped with a drying tunnel, a</p>

**COMPLIANCE CATEGORY:  
AIR EMISSIONS MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
cleaning machines must have specific control equipment (CRIR 12 031 036(36.7.6 through 36.7.8))	<p>rotating (tumbling) basket, or another device that prevents cleaned pieces from carrying solvent liquid or vapor out of the unit.</p> <p>Verify that any in-line cleaning machine installed before 29 November 1993 is equipped with one of the following control combinations:</p> <ul style="list-style-type: none"> <li>- refrigerated freeboard chiller and freeboard ratio of at least 1.0</li> <li>- refrigerated freeboard chiller and dwell</li> <li>- carbon adsorber and dwell</li> <li>- another system of equivalent control system that is approved by the Director and the USEPA.</li> </ul> <p>Verify that any in-line cleaning machine installed on or after 29 November 1993 is equipped with and operate one of the following control combinations:</p> <ul style="list-style-type: none"> <li>- refrigerated freeboard chiller and a superheated vapor system</li> <li>- refrigerated freeboard chiller and carbon adsorber</li> <li>- another system of equivalent control that is approved by the Director and the USEPA.</li> </ul>
<p><b>AE.117.9.RI.</b> In-line cleaning machines must comply with ventilation and exhaust requirements (CRIR 12 031 036(36.7.9 through 36.7.11)).</p>	<p>Verify that the size of entrance and exit openings are minimized so that there is a clearance of no more than 4 in. on each side between the largest piece cleaned and the edges of the opening of the cleaning machine.</p> <p>Verify that each in-line cleaning machine that uses a lip exhaust is designed and operated to route all collected solvent vapors through a properly operated and maintained carbon adsorber.</p> <p>Verify that the exhaust ventilation rate does not exceed <math>20 \text{ m}^3/\text{min}/\text{m}^2</math> (65 cfm/ft<sup>2</sup>) of solvent/air interface, unless necessary to meet OSHA requirements.</p> <p>(NOTE: If a carbon adsorber is used, the exhaust ventilation rate is at least <math>15 \text{ m}^3/\text{min}/\text{m}^2</math> (50 cfm/ft<sup>2</sup>) of solvent/air interface.)</p>
<p><b>AE.117.10.RI.</b> In-line cleaning operations must comply with specific requirements (CRIR 12 031 036(36.7.12 through 36.7.15)).</p>	<p>Verify that the cleaning machine is operated so that water cannot be visually detected in the solvent exiting the water separator.</p> <p>Verify that during startup of each vapor in-line cleaning machine, the primary condenser is turned on before the sump heater.</p> <p>Verify that during shutdown of each vapor in-line cleaning machine, the sump heater is turned off and the solvent vapor layer allowed to collapse before the primary condenser is turned off.</p>

<b>COMPLIANCE CATEGORY:</b> <b>AIR EMISSIONS MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<p><b>AE.117.11.RI.</b> Batch vapor cleaning operations without solvent/air interfaces must comply with specific solvent emission monitoring requirements (CRIR 12 031 036(36.8)).</p>	<p>Verify that a log of solvent additions and deletions is maintained for each cleaning machine.</p> <p>Verify that solvent emissions from each cleaning machine which does not have a solvent/air interface do not exceed the amount calculated using Equation 1:</p> $EL = 85.5 * (Vol)[0.6]$ <p>where:</p> <ul style="list-style-type: none"> <li>- EL = the average monthly emission limit for any 3-mo period (pounds/month)</li> <li>- Vol = the cleaning capacity (volume) of the cleaning machine (cubic feet).</li> </ul> <p>Verify that batch vapor cleaning machines which do not have a solvent/air interface demonstrate compliance with the emission limit calculated with Equation 1 on the first operating day of every month using the following procedures:</p> <ul style="list-style-type: none"> <li>- a fill-line is marked on the first month the measurements are taken, and solvent is added to bring the level to the same fill-line on the first operating day of each month thereafter</li> <li>- confirm that only clean liquid solvent is in the vapor cleaning machine</li> <li>- using the records of solvent additions and deletions for the previous month and Equation 2, determine monthly solvent emissions:</li> </ul> $E = SA - LSR - SSR$ <p>Where:</p> <p>E = the total solvent emissions for the previous month (pounds)  SA = the total amount of solvent added to the cleaning machine during the previous month (pounds)  LSR = the total amount of liquid solvent removed from the cleaning machine during the previous month (pounds)  SSR = the total amount of solid waste removed from the cleaning machine during the previous month (pounds)</p> <p>Verify that the average monthly emissions for the previous 3 mo period E is calculated.</p> <p>(NOTE: The cleaning machine is in compliance with the average monthly emission limit if E (3 mo) is less than or equal to EL, calculated according to Equation 1.)</p>



**COMPLIANCE CATEGORY:  
AIR EMISSIONS MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>DEGREASING OPERATIONS</b></p> <p><b>AE.118. Reporting</b></p> <p><b>AE.118.1.RI.</b> Organic solvent cleaning machines must comply with initial reporting requirements (CRIR 12 031 036(36.11.1)).</p> <p><b>AE.118.2.RI.</b> Organic solvent cleaning machines must comply with reporting requirements (CRIR 12 031 036(36.11.2)) [Revised March 1998].</p>	<p>Verify that the an organic solvent cleaning machine installed before 29 November 1993 which uses a solvent containing trichloroethylene, perchloroethylene, 1,1,1-trichloroethane, methylene chloride, chloroform, or carbon tetrachloride has submitted an Initial Notification Report to the Division.</p> <p>Verify that an organic solvent cleaning machine installed on or after 29 November 1993 which uses a solvent containing trichloroethylene, perchloroethylene, 1,1,1-trichloroethane, methylene chloride, chloroform, or carbon tetrachloride has submitted an Initial Notification Report to the Division 120 days before startup of the cleaning machine.</p> <p>Verify that an organic solvent cleaning machine submits a Compliance Notification Report to the Division which contains the following information:</p> <ul style="list-style-type: none"> <li>- name and address of the owner or operator</li> <li>- address of the solvent cleaning machine</li> <li>- a statement, signed by the owner or operator, stating that each cleaning machine is in compliance with this regulation</li> <li>- the control equipment used to achieve compliance for each cleaning machine</li> <li>- if a refrigerated freeboard chiller or superheated vapor is used, the dates and results of weekly temperature monitoring for the first month after the compliance date</li> <li>- if a carbon adsorber is used, the date and results of weekly measurements of the solvent concentration in the exhaust for the first month after the compliance date</li> <li>- if dwell is used, the minimum dwell times and the actual dwell times measured for the first month</li> <li>- for vapor cleaning machines without solvent/air interfaces, a description of the method used to determine the cleaning capacity of the machine and the results of the monthly solvent emissions calculation for the month beginning with the compliance date.</li> </ul> <p>(NOTE: Compliance Notification Reports for organic solvent cleaning machines installed on or after 29 November 1993 must be submitted no more than 60 days after startup of the cleaning machine.)</p>

**COMPLIANCE CATEGORY:  
AIR EMISSIONS MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>AE.118.3.RI.</b> Organic solvent machines must comply with exceedance provisions and reporting (CRIR 12 031 036 (36.11.3)).</p>	<p>Verify that a batch vapor or in-line cleaning machine submits semiannual exceedance reports, except when the Division determines on a case-by-case basis that more or less reporting is required.</p>
<p><b>AE.118.4.RI.</b> Batch vapor and in-line machines must submit annual reports (CRIR 12 031 036(36.11.4)).</p>	<p>Verify that a batch vapor or in-line solvent cleaning machine submits an annual report to the Division by 1 February of each year for the previous calendar year that includes following:</p> <ul style="list-style-type: none"> <li>- a signed statement stating, "All operators of solvent cleaning machines have received training on the proper operation of solvent cleaning machines and their control devices sufficient to pass the test required in Appendix A"</li> <li>- an estimate of solvent consumption for each solvent cleaning machine during the reporting period</li> <li>- the average monthly solvent consumption and the average monthly emissions for each consecutive 3-mo period</li> <li>- for each batch vapor cleaning machine that has received an exemption from the automated parts handling system requirements, the solvent emissions during each 3-mo period.</li> </ul>
<p><b>AE.118.5.RI.</b> Batch vapor or in-line organic cleaning machines must comply with lifetime recordkeeping regulations (CRIR 12 031 036(36.10.1)).</p>	<p>Verify that batch vapor or in-line organic cleaning machines maintain the following records for the lifetime of the cleaning units:</p> <ul style="list-style-type: none"> <li>- owner's manuals or written maintenance and operating procedures for the cleaning machine and air pollution control equipment</li> <li>- date of installation of the cleaning machine and its control devices</li> <li>- records of the content of each solvent used in the cleaning machine</li> <li>- if dwell or superheated vapor is used, the minimum dwell times</li> <li>- records of training provided to solvent cleaning machine operators.</li> </ul>
<p><b>AE.118.6.RI.</b> Batch vapor or in-line machines must maintain certain records for 5 yr (CRIR 12 031 036(36.10.2)).</p>	<p>Verify that batch vapor or in-line organic cleaning machines maintain the following records for a period of 5 yr:</p> <ul style="list-style-type: none"> <li>- amount and type of solvent used in each cleaning machine each year</li> <li>- results of monitoring</li> <li>- records of written or verbal orders for replacement parts, a description of the repairs made, and the additional monitoring conducted to demonstrate that monitored parameters have returned to acceptable level</li> <li>- the dates that carbon adsorber beds are desorbed</li> </ul>





<b>COMPLIANCE CATEGORY:</b> <b>AIR EMISSIONS MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<b>AE.125</b> <b>MISCELLANEOUS VOC OPERATIONS</b>  <b>AE.125.1.RI.</b> Installations/CW facilities must limit VOC emissions (CRIR 12 035 005(15.2)) [Revised March 1998].	<p>(NOTE: This is a general requirement that dates back to the mid-1970s for all VOC sources. For most sources, more stringent requirements have been promulgated.)</p> <p>Verify that sources, operating in one or several buildings located at the same or contiguous sites, do not discharge into the atmosphere more than 40 lb of organic materials per day from any machine, device, or article, nor a total of more than 100 lb of organic materials per day from all operations at sites in which:</p> <ul style="list-style-type: none"> <li>- any organic solvent or any material containing organic solvent comes into contact with flame or is baked, heat cured or heat polymerized</li> <li>- any highly photochemically reactive solvent or material containing a highly photochemically reactive solvent is employed, applied, evaporated or dried unless the total uncontrolled emissions of organic materials, when such operations are conducted according to good industrial practice, are reduced by 85 percent or greater.</li> </ul> <p>(NOTE: Portions of any series of machines, devices or articles designed for processing a continuous web, strip, or wire which emit organic materials into the atmosphere are collectively subject to compliance.)</p>



**COMPLIANCE CATEGORY:**  
**AIR EMISSIONS MANAGEMENT**  
**Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> March 1998
<p><b>AE.130. OPEN BURNING</b></p> <p><b>AE.130.1.RI.</b> Open fires at waste management facilities are prohibited (CRIR 12 031 004) [Revised March 1998].</p>	<p>Verify that no person burns any material in an open fire at a solid waste management facility and/or hazardous waste disposal facility or in connection with any salvage, industrial, commercial, or institutional operation.</p> <p>(NOTE: The following are not subject to this regulation:</p> <ul style="list-style-type: none"> <li>- open burning for weed abatement or pest control after receiving written approval from the Director</li> <li>- bonfires composed of clean, untreated wood, or cellulose derivatives for festive occasions conducted by an institution</li> <li>- open burning of solid or liquid fuels or structures for the purpose of instruction and training of municipal, volunteer and industrial firefighters in the methods of fighting fires when conducted under the direct control and supervision of qualified instructors after receiving written approval from the Director</li> <li>- open burning of combustible material after receiving written approval from the Director.)</li> </ul> <p>Verify that the conditions of any approval are met and that burning is conducted as follows:</p> <ul style="list-style-type: none"> <li>- during periods of good atmospheric ventilation</li> <li>- without causing a nuisance</li> <li>- with smoke-minimizing starters if starters or starting aids are used.</li> </ul>



<b>COMPLIANCE CATEGORY:</b> <b>AIR EMISSIONS MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<b>AE.145.</b> <b>ASPHALT PAVING MATERIALS/ OPERATIONS</b>	<p>(NOTE: Wherever the term volatile organic compound or VOC is used, this term is read as volatile organic compound and halogenated compound or VOC and HOC.)</p>
<b>AE.145.1.RI.</b> All cutback and emulsified asphalt facilities must control VOC emissions (CRIR 12 031 025(25.2, 25.3.1 and 25.3.2)).	<p>Verify that installations/CW facilities do not utilize cutback asphalt between 1 May and 14 October (except for the manufacture and use of medium curing cutback asphalt in patching mixtures for pavement repairs when long-life stockpile storage is necessary and, with written approval of the Director, for the application of a penetrating prime coat).</p> <p>Verify that medium curing cutback asphalt used for the manufacture of patching mixtures or as a penetrating prime coat has less than 5 percent of the total solvent evaporate at a temperature up to and including 500 °F.</p> <p>Verify that installations/CW facilities do not utilize cutback asphalt between 15 October and 30 April except in the following circumstances:</p> <ul style="list-style-type: none"> <li>- the use of medium curing cutback asphalt solely as a penetrating prime coat</li> <li>- the use of medium curing cutback asphalt for the manufacture and use of patching mixtures for pavement repairs when long life stockpile storage is necessary</li> <li>- the use of medium curing cutback asphalt of which less than 5 percent of the total solvent evaporates at a temperature up to and including 500 °F.</li> </ul>
<b>AE.145.2.RI.</b> Emulsified asphalt must meet temporal VOC content limitations (CRIR 12 031 025(25.3.3 and 25.3.4)).	<p>Verify that installations/CW facilities do not utilize emulsified asphalt which has been diluted with a petroleum solvent or another VOC or which has a VOC content greater than the specified limits between 1 May and 14 October.</p> <p>Verify that the VOC content of any emulsified asphalt manufactured, mixed, stored, used, or applied between 15 October and 30 April is limited as follows:</p> <ul style="list-style-type: none"> <li>- use as a seal coat, 3 percent by weight</li> <li>- use as a chip seal when duty or dirty aggregate is used, 3 percent by weight</li> <li>- mixing with open graded aggregate that is not well washed, 8 percent by weight</li> <li>- mixing with dense graded aggregate, 12 percent by weight.</li> </ul>



<b>COMPLIANCE CATEGORY:</b> <b>AIR EMISSIONS MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<b>OTHER EMISSIONS/SOURCES</b>  <b>AE.155.</b> <b>Industrial Processes</b>  <b>AE.155.1.RI.</b> Industrial processes must not exceed particulate emissions limitations (CRIR 12 031 003).	Verify that industrial processes (except those to which other Rhode Island requirements apply) do not emit into the atmosphere in any 1 h particulate matter in excess of the limits specified in Appendix 1-1.



# Appendix 1-1

## Fugitive Emission Standards (Source: CRIR 12 031 003)

Process Weight Rate		Rate of Emission	Process Weight Rate		Rate of Emission
lb/hr	Tons/hr	lb/hr	lb/hr	Tons/hr	lb/hr
100	0.05	0.551	16,000	8.00	16.5
200	0.10	0.877	18,000	9.00	17.9
400	0.20	1.40	20,000	10.	19.2
600	0.30	1.83	30,000	15.	25.2
800	0.40	2.22	40,000	20.	30.5
1,000	0.50	2.58	50,000	25.	35.4
1,500	0.75	3.38	60,000	30.	40.0
2,000	1.00	4.10	70,000	35.	41.3
2,500	1.25	4.76	80,000	40.	42.5
3,000	1.50	5.38	90,000	45.	43.6
3,500	1.75	5.96	100,000	50.	44.6
4,000	2.00	6.52	120,000	60.	46.3
5,000	2.50	7.58	140,000	70.	47.8
6,000	3.00	8.56	160,000	80.	49.0
7,000	3.50	9.49	200,000	100.	51.2
8,000	4.00	10.4	1,000,000	500.	69.0
9,000	4.50	11.2	2,000,000	1,000.	77.6
10,000	5.00	12.0	6,000,000	3,000.	92.7
12,000	6.00	13.6			

Interpolation of the data in this table for process weight rates up to 60,000 lb/hr shall be accomplished by use of the equation:  $E = 4.10 p[0.67]$ .

Interpolation and extrapolation of the data for process weight rates in excess of 60,000 lb/hr shall be accomplished by use of the equation:  $E = 5$ .

where:  $E$  = rate of emission in lb/hr and  $P$  = process weight rate in Tons/hr.



## Appendix 1-2

### Minimum Quantities of Toxics (pounds per hour) (Source CRIR 12 031 009 (Appendix A))

Acrylonitrile	0.0005
Aniline	0.04
o-Anisidine	0.001
Antimony and antimony compounds	1.14
Arsenic and arsenic compounds	0
Benzene	0.005
Benzidine	0
Benzotrichloride	0
Benzyl chloride	0.001
Cadmium and cadmium compounds	0
Carbon tetrachloride	0.002
Chloroform	0.002
Chromium and chromium compounds	0
3,3'-Dichlorobenzidine	0.0004
Diethyl phthalate (DOP, DEHP)	0.02
Diphenyl (biphenyl)	0.02
Diphenylamine	1.14
Epichlorohydrin	0.04
Ethylene dichloride (1,2 dichloroethane)	0.002
Ethylene oxide	0.0006
Hydrazine	0
Hydrogen chloride	1.14
Hydrogen fluoride	0.1
Manganese and manganese compounds	0.01
Methyl cellosolve	1.14
Methylene bisphenyl isocyanate (MDI)	0.003
4,4'-Methylene bis(2-chloroaniline) (MOCA)	0.05
Methylene chloride (dichloromethane)	0.1
Nickel and nickel compounds	0.0001
5-Nitro (o-anisidine)	0.004
2-Nitropropane	0.01
Perchloroethylene (tetrachloroethylene)	0.002
Styrene	1.14
Toluene	1.14
Toluene-2,4-diisocyanate (TDI)	0.001
o-Toluidine	0.002
1,1,2-Trichloroethane	0.3
Trichloroethylene	0.02
Triethylamine	1.14
Xylenes	1.14



### Appendix 1-3

#### Minimum Quantities of Contaminants (pounds per year)

(Source: CRIR 12 031 022, Table III)

Acrylonitrile	5
Aniline	300
o-Anisidine	10
Antimony and antimony compounds	10,000
Arsenic and arsenic compound	0
Benzene	50
Benzidine	0
Benzotrichloride	10
Cadmium and cadmium compounds	0
Carbon tetrachloride	23
Chloroform	20
Chromium and chromium compounds	0
3,3'-Dichlorobenzidine	4
Diethyl phthalate (DOP, DEHP)	180
Diphenyl (biphenyl)	200
Diphenylamine	10,000
Epichlorohydrin	400
Ethylene dichloride (1,2 dichloroethane)	20
Ethylene oxide	5
Hydrazine	0
Hydrogen chloride	10,000
Hydrogen fluoride	1,000
Manganese and manganese compounds	100
Methyl cellosolve	10,000
Methylene bisphenyl isocyanate (MDI)	30
4,4'-Methylene bis(2-chloroaniline) (MOCA)	500
Methylene chloride (dichloromethane)	1000
Nickel and nickel compounds	1
5-Nitro (o-anisidine)	40
2-Nitropropane	100
Perchloroethylene (tetrachloroethylene)	20
Styrene	10,000
Toluene	10,000
Toluene-2,4-diisocyanate (TDI)	10
o-Toluidine	20
1,1,2-Trichloroethane	3,000
Trichloroethylene	200
Triethylamine	10,000
Xylenes	10,000



# Appendix 1-4

## Acceptable Ambient Levels (per cubic meter)

(Source: CRIR 12 031 022, Tables I and II)

Acceptable Ambient Levels (per cubic meter)			
	1 Hour Average	24 Hour Average	1 Year Average
Acrylonitrile			0.01
Aniline		3	0.6
o-Anisidine		1	0.02
Antimony dust and fumes			40
Arsenic			0.0002
Benzene			0.1
Benzidine			0.00002
Benzotrichloride			0.0003
Benzyl chloride	20		0.02
Cadmium dust and fumes			0.0006
Carbon tetrachloride			0.07
Chloroform			0.04
Chromium dust, fumes, and mist			0.00009
3,3'-Dichlorobenzidine			0.008
Diethyl phthalate (DOP, DEHP)		200	0.3
Diphenyl (biphenyl)		7	0.4
Diphenylamine			200
Epichlorohydrin		200	0.8
Ethylene dichloride (1,2 dichloroethane)			0.04
Ethylene oxide			0.01
Hydrazine			0.0002
Hydrogen chloride	2000	600	
Hydrogen fluoride	30		
Manganese dust and fumes	2		
Methyl cellosolve		100	
Methylene bisphenyl isocyanate (MDI)		0.2	
4,4'-Methylene bis(2-chloroaniline) (MOCA)		1	
Methylene chloride (dichloromethane)			2
Nickel dust and fumes			0.002
5-Nitro(o-anisidine)			0.08
2-Nitropropane			0.2
Perchloroethylene (tetrachloroethylene)			0.05
Styrene			30
Toluene		2000	400
Toluene-2,4-diisocyanate (TDI)		0.2	0.03
o-Toluidine			0.04
1,1,2-Trichloroethane			7
Trichloroethylene			0.3
Triethylamine		300	20
Xylenes		700	

NOTE: The unit of measurement is not given in the regulations.

Acceptable Ambient Levels with Lowest Achievable Emissions Rate (LAER) (per cubic meter)			
	1 Hour Average	24 Hour Average	1 Year Average
Acrylonitrile			0.1
Aniline		3	
o-Anisidine		1	0.2
Antimony dust and fumes			40
Arsenic			0.0002
Benzene			1
Benzidine			0.0002
Benzotrichloride			0.003
Benzyl chloride	20		0.2
Cadmium dust and fumes			0.006
Carbon tetrachloride		0.7	
Chloroform			0.4
Chromium dust, fume and mist			0.0009
3,3'-Dichlorobenzidine			0.08
Dioctyl phthalate (DOP, DEHP)		200	3
Diphenyl (biphenyl)		7	0.4
Diphenylamine			200
Epichlorohydrin		200	8
Ethylene dichloride (1,2 dichloroethane)			0.4
Ethylene oxide			0.1
Hydrazine			0.002
Hydrogen chloride	2000	600	
Hydrogen fluoride	30		
Manganese dust and fumes	2		
Methyl cellosolve		100	
Methylene bisphenyl isocyanate (MDI)		0.2	
4,4'-Methylene bis (2-chloroaniline) (MOCA)		1	
Methylene chloride (dichloromethane)			20
Nickel dust and fumes			0.02
5-Nitro (o-anisidine)			0.8
2-Nitropropane			0.2
Perchloroethylene (Tetrachloroethylene)			0.5
Styrene			30
Toluene			400
Toluene-2,4-diisocyanate (TDI)		0.2	
o-Toluidine			0.4
1,1,2-Trichloroethane			7
Trichloroethylene			3
Triethylamine		300	20
Xylenes		700	

NOTE: The unit of measurement is not given in the regulations.

## Appendix 1-5

### VOC Content Limits for Surface Coating Operations

(Source: CRIR 12 031 019(19.3.1))

Type of Surface	lbs VOC/gal of Coating (minus water)	lbs VOC/gal of Solids
Paper	2.9	4.79
Fabric	2.9	4.79
Vinyl	3.8	7.86
Flat wood Paneling*		
Printed Interior Wall, Panels Made of Hardwood, Plywood and Thin Particleboard	6.0*	
Natural Finish Hardwood Plywood Panels	12.0*	
Class II Finishes for Hardboard Paneling	10.0*	
Miscellaneous Metal Parts**		
Clear Coating	4.3	10.34
Steel Pail and Drum Interiors	4.3	10.34
Air Dried Coating	3.5	6.67
Extreme Performance Coating	3.5	6.67
All Other Coating on miscellaneous Metal Parts	3.0	5.06
Metal Furniture	3.0	5.06
Coil	2.6	4.02
Large Appliances	2.8	4.52
Magnet Wire	1.7	2.21

\* Emission limits for flat wood paneling are expressed in terms of lb VOC/1000 square feet coated.

\*\* For miscellaneous metal parts coating, if more than one emission limitation applies to a specific coating, then the least stringent emission limitation shall be applied.

For facilities complying without using add-on control equipment, the pounds of VOC per gallon of coating (minus water) limit must be met. For facilities which bubble or use add-on control equipment, the pounds of VOC/gallon of solids emission limit must be met.



## Appendix 1-6

### VOC Content Limitations for Architectural and Industrial Maintenance Coatings

(Source: CRIR 12 031 033(33.3.1))

Type of Coating	1 lb VOC/Gallon Coating Applied (minus water and colorant added to tint)
Bituminous Pavement Sealer	0.8
Bond Breakers	5.0
Concrete Curing Compound	2.9
Dry Fog Coating	3.3
Flat Architectural Coating	2.1
Fire Retardant Coating	
Clear	7.1
Pigmented	4.2
Form Release Compound	2.1
Graphic Arts (sign) Coating	3.8
High Temperature Industrial Maintenance Coating	5.4
Industrial Maintenance Coating	3.8
Lacquer	5.7
Magnesite Cement Coating	3.8
Mastic Texture Coating	2.5
Metallic Pigmented Coating	4.2
Multicolored Coating	5.0
Non-Flat Architectural Coating	3.2
Pretreatment Wash Primer	6.5
Primer/Sealer/Undercoater	2.9
Quick-Dry Primers, Sealers and Undercoaters	4.2
Roof Coating	2.5
Shellac	
Clear	6.1
Pigmented	4.6
Stains	
Semi transparent	4.6
Opaque	2.9
Swimming Pool Coating	5.0
Tile-Like Glaze Coatings	4.6
Traffic Marking Coating	2.1
Varnish	3.8
Waterproofing Sealer	5.0
Wood Preservative	4.6
Any other coating	2.1

If a coating is consistent with the definition of more than one category listed above, then the lower emission limitation shall apply. Exceptions to this requirement are as follows:

- a) High Temperature Industrial Maintenance Coatings which are represented as metallic pigmented coatings for use consistent with the definition of high temperature industrial maintenance coatings.
- b) Metallic Pigmented Coatings, which are recommended for use as primers, sealers, undercoatings, roof coatings, industrial maintenance coatings.

- c) Lacquers which are recommended for use as sealers in conjunction with clear lacquer topcoats; and
- d) Shellacs.

If thinning is necessary, adding the recommended amount of thinner must not cause the coating, as applied, to exceed the applicable VOC limitation.

## Appendix 1-7

### Test of Operator Knowledge of Solvent Cleaning Procedures

(Source: CRIR 12 031 036)

#### General Questions

---

1. What is the maximum allowable speed for parts entry and removal?
  - A. 28 ft/min
  - B. 10 ft/min
  - C. 36 ft/min
  - D. No limit

---
2. How do you ensure that parts enter and exit the solvent cleaning machine at the speed required in the regulation?
  - A. Program on computerized hoist monitors speed
  - B. Can judge the speed by looking at it
  - C. Measure the time it takes the parts to travel a measured distance

---
3. Identify the sources of air disturbances?
  - A. Fans
  - B. Open doors
  - C. Open windows
  - D. Ventilation vents
  - E. All of the above

---
4. What are the three operating modes?
  - A. Idling, working, and downtime
  - B. Precleaning, cleaning, and drying
  - C. Startup, shutdown, off
  - D. None of the above

---
5. When can parts or parts baskets be removed from the solvent cleaning machine?
  - A. When they are clean
  - B. At any time
  - C. When dripping stops
  - D. Either A or C is correct

---
6. How must parts be oriented during cleaning?
  - A. It does not matter as long as they fit in the parts basket
  - B. So that the solvent pools in the cavities where the dirt is concentrated
  - C. So that solvent drains from them freely

---
7. During startup, what must be turned on first, the primary condenser or the sump heater?
  - A. Primary condenser
  - B. Sump heater
  - C. Turn both on at same time
  - D. Either A or B is correct

---
8. During shutdown, what must be turned off first, the primary condenser or the sump heater?
  - A. Primary condenser
  - B. Sump heater

- C. Turn both on at same time
  - D. Either A or B is correct
- 

9. In what manner must solvent be added to and removed from the solvent cleaning machine?
- A. With leak proof couplings
  - B. With the end of the pipe in the solvent sump below the liquid solvent surface
  - C. So long as the solvent does not spill, the method does not matter
  - D. A and B
- 

10. What must be done with waste solvent, still bottoms, and sump bottoms?
- A. Pour down the drain
  - B. Store in closed container
  - C. Store in a bucket
  - D. A or B
- 

11. What types of materials are prohibited from being cleaned in solvent cleaning machines using halogenated HAP solvents?
- A. Sponges
  - B. Fabrics
  - C. Paper
  - D. All of the above
- 

12. When can a cover be open?
- A. While parts are in the cleaning machine
  - B. During parts entry and removal or when an in-line conveyor is operating
  - C. At all times
  - D. Never
- 

13. Covers must be maintained in what condition?
- A. Free of holes
  - B. Free of cracks
  - C. So that they completely seal cleaning opening
  - D. All of the above

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## Control Device Specific Questions

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### Freeboard Refrigerated Chiller

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1. What temperature must the freeboard refrigerated chiller achieve?
    - A. Below room temperature
    - B. 50 °F
    - C. Below the solvent boiling point
    - D. 30 percent of the solvent's boiling point
- 

### Dwell

---

2. Where must the parts be held for the appropriate dwell time?
    - A. In the vapor zone
    - B. In the freeboard zone above the vapor zone
    - C. Above the cleaning machine
    - D. In the immersion sump
-

## Answers

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### General Questions

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1. B
  2. A or C
  3. E
  4. A
  5. C
  6. C
  7. A
  8. B
  9. D
  10. B
  11. D
  12. B
  13. D
- 

### Control Device Specific Questions

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1. D
  2. B
-

## Appendix 1-8

### Sources Subject to Minor Source Permitting Requirements

(Source: CRIR 12 031 009)

The following sources are subject to minor source permitting requirements:

- any fuel-burning device designed to burn:
  - residual oil or solid fossil fuels having a heat input capacity of 1 MBtu/h
  - all other liquid fuels having a heat input capacity of 5 MBtu/h or more per hour
  - gaseous fuel having a heat input capacity of 10 MBtu/h or more
  - alternative fuels, including but not limited to, wood chips, hazardous wastes or waste oil having a heat input capacity of 1 MBtu/h or more
- liquid petroleum storage tanks, reservoirs, and containers with a capacity of 40,000 gal or more used for the storage of petroleum liquids having a true vapor pressure greater than 1.52 psia at 69 °F
- any incinerator
- any stationary source having the potential to emit 5 ton/yr or more of lead
- any stationary source that emits or has the potential to emit, in the aggregate, 10 tons/yr or more of any hazardous air pollutant or 25 tons/yr or more of any combination of hazardous air pollutants
- any other stationary source or process having the potential to emit 100 lb/day or 10 lb/h of any air contaminant or combination of air contaminants into the atmosphere, including but not limited to the following categories:
  - surface coating, spray and dip painting, roller coating, knife coating, and electrostatic depositing
  - metal cleaning or surface preparation, degreasing, bright dipping, stripping, galvanizing, and chrome plating
  - textile dyeing and finishing, including tenter frames, dryers, printers, and solvent dyers
  - glass or fiberglass manufacturing, including melting furnaces, forming lines, curing ovens, and product cooling lines
  - the production of asphalt concrete, including rotary dryers, screening, and conveying systems and mixers
  - the production of metal castings, including cupolas, reverberatory furnaces, electric furnaces, crucible furnaces, and sand-handling systems
  - the transfer of petroleum products having a true vapor pressure greater than 1.52 psia at 69 °F from the storage facility to or from a mobile vessel
- any air pollution control system and appurtenances.



# Appendix 1-9

## Hazardous Air Pollutants (Source: CRIR 12 031 009)

HAP Identification Code	Chemical Name	CAS Number
0-1	ACETALDEHYDE	75070
0-2	ACETAMIDE	60355
0-3	ACETONITRILE	75058
0-4	ACETOPHENONE	98862
0-5	2-ACETYLAMINOFLUORENE	53963
0-6	ACROLEIN	107028
0-7	ACRYLAMIDE	79061
0-8	ACRYLIC ACID	79107
0-9	ACRYLONITRILE	107131
0-10	ALLYL CHLORIDE	107051
0-11	4-AMINOBIIPHENYL	92671
0-12	ANILINE	62533
0-13	o-ANISIDINE	90040
0-14	ASBESTOS	1332214
0-15	BENZENE(INCLUDING BENZENE FROM GASOLINE)	71432
0-16	BENZIDINE	92875
0-17	BENZOTRICHLORIDE	98077
0-18	BENZYL CHLORIDE	100447
0-19	BIPHENYL	92524
0-20	BIS(2-ETHYLHEXYL)PHTHALATE(DEHP)	117817
0-21	BIS(CHLOROMETHYL)ETHER	542881
0-22	BROMOFORM	75252
0-23	1,3-BUTADIENE	106990
0-24	CALCIUM CYANAMIDE	156627
0-25	CAPROLACTAM	105602
0-26	CAPTAN	133062
0-27	CARBARYL	63252
0-28	CARBON DISULFIDE	75150
0-29	CARBON TETRACHLORIDE	56235
0-30	CARBONYL SULFIDE	463581
0-31	CATECHOL	120809
0-32	CHLORAMBEN	133904
0-33	CHLORDANE	57749
0-34	CHLORINE	7782505
0-35	CHLOROACETIC ACID	79118
0-36	2-CHLOROACETOPHENONE	532274
0-37	CHLOROBENZENE	108907
0-38	CHLOROBENZILATE	510156
0-39	CHLOROFORM	67663
0-40	CHLOROMETHYL METHYL ETHER	107302
0-41	CHLOROPRENE	126998
0-42	CRESOLS/CRESYLIC ACID (ISOMERS AND MIXTURE)	1319773

HAP Identification Code	Chemical Name	CAS Number
0-43	o-CRESOL	95487
0-44	m-CRESOL	108394
0-45	p-CRESOL	106445
0-46	CUMENE	98828
0-47	2,4-D, SALTS AND ESTERS	94757
0-48	DDE	3547044
0-49	DIAZOMETHANE	334883
0-50	DIBENZOFURANS	132649
0-51	1,2-DIBROMO-3-CHLOROPROPANE	96128
0-52	DIBUTYLPHTHALATE	84742
0-53	1,4-DICHLOROBENZENE(P)	106467
0-54	3,3-DICHLOROBENZIDENE	91941
0-55	DICHLOROETHYL ETHER (BIS(2- CHLOROETHYL)ETHER)	111444
0-56	1,3-DICHLOROPROPENE	542756
0-57	DICHLORVOS	62737
0-58	DIETHANOLAMINE	111422
0-59	N,N-DIETHYL ANILINE (N,N- DIMETHYLANILINE)	121697
0-60	DIETHYL SULFATE	64675
0-61	3,3-DIMETHOXYBENZIDINE	119904
0-62	DIMETHYL AMINOAZOBENZENE	60117
0-63	3,3-DIMETHYL BENZIDINE	119937
0-64	DIMETHYL CARBAMOYL CHLORIDE	79447
0-65	DIMETHYL FORMAMIDE	68122
0-66	1,1-DIMETHYL HYDRAZINE	57147
0-67	DIMETHYL PHTHALATE	131113
0-68	DIMETHYL SULFATE	77781
0-69	4,6-DINITRO-O-CRESOL, AND SALTS	534521
0-70	2,4-DINITROPHENOL	51285
0-71	2,4-DINITROTOLUENE	121142
0-72	1,4-DIOXANE(1,4-DIETHYLENEOXIDE)	123911
0-73	1,2-DIPHENYLHYDRAZINE	122667
0-74	EPICHLOROHYDRIN(1-CHLORO-2,3- EPOXYPROPANE)	106898
0-75	1,2-EPOXYBUTANE	106887
0-76	ETHYL ACRYLATE	140885
0-77	ETHYL BENZENE	100414
0-78	ETHYL CARBAMATE (URETHANE)	51796
0-79	ETHYL CHLORIDE (CHLOROETHANE)	75003
0-80	ETHYLENE DIBROMIDE (DIBROMOETHANE)	106934
0-81	ETHYLENE DICHLORIDE (1,2- DICHLOROETHANE)	107062
0-82	ETHYLENE GLYCOL	107211
0-83	ETHYLENE IMINE (AZIRIDINE)	151564
0-84	ETHYLENE OXIDE	75218
0-85	ETHYLENE THIOUREA	96457
0-86	ETHYLIDENE DICHLORIDE (1,1- DICHLOROETHANE)	75343

HAP Identification Code	Chemical Name	CAS Number
0-87	FORMALDEHYDE	50000
0-88	HEPTACHLOR	76448
0-89	HEXACHLOROBENZENE	118741
0-90	HEXACHLOROBUTADIENE	87683
0-91	HEXACHLOROCYCLOPENTADIENE	77474
0-92	HEXACHLOROETHANE	67721
0-93	HEXAMETHYLENE-1,6-DIISOCYANATE	822060
0-94	HEXAMETHYLPHOSPHORAMIDE	680319
0-95	HEXANE	110543
0-96	HYDRAZINE	302012
0-97	HYDROCHLORIC ACID	7647010
0-98	HYDROGEN FLUORIDE (HYDROFLUORIC ACID)	7664393
0-99	HYDROQUINONE	123319
0-100	ISOPHORONE	78591
0-101	LINDANE (ALL ISOMERS)	58899
0-102	MALEIC ANHYDRIDE	108316
0-103	METHANOL	67561
0-104	METHOXYCHLOR	72435
0-105	METHYL BROMIDE (BROMOMETHANE)	74839
0-106	METHYL CHLORIDE (CHLOROMETHANE)	74873
0-107	METHYL CHLOROFORM (1,1,1- TRICHLOROETHANE)	71556
0-108	METHYL ETHYL KETONE (2-BUTANONE)	78933
0-109	METHYL HYDRAZINE	60344
0-110	METHYL IODIDE (Iodomethane)	74884
0-111	METHYL ISOBUTYL KETONE (HEXONE)	108101
0-112	METHYL ISOCYANATE	624839
0-113	METHYL METHACRYLATE	80626
0-114	METHYL TERTBUTYL ETHER	1634044
0-115	4,4-METHYLENE BIS(2-CHLOROANILINE)	101144
0-116	METHYLENE CHLORIDE (DICHLOROMETHANE)	75092
0-117	METHYLENE DIPHENYL DIISOCYANATE (MDI)	101688
0-118	4,4-METHYLENEDIANILINE	101779
0-119	NAPHTHALENE	91203
0-120	NITROBENZENE	98953
0-121	4-NITROBIPHENYL	92933
0-122	4-NITROPHENOL	100027
0-123	2-NITROPROPANE	79469
0-124	N-NITROSO-N-METHYLUREA	684935
0-125	N-NITROSODIMETHYLAMINE	62759
0-126	N-NITROSOMORPHOLINE	59892
0-127	PARATHION	56382
0-128	PENTACHLORONITROBENZENE (QUINTOBENZENE)	82688
0-129	PENTACHLOROPHENOL	87865
0-130	PHENOL	108952
0-131	p-PHENYLENEDIAMINE	106503

HAP Identification Code	Chemical Name	CAS Number
0-132	PHOSGENE	75445
0-133	PHOSPHINE	7803512
0-134	PHOSPHOROUS	7723140
0-135	PHTHALIC ANHYDRIDE	85449
0-136	POLYCHLORINATED BIPHENYLS (AROCHLORS)	1336363
0-137	1,3-PROPANE SULTONE	1120714
0-138	BETA-PROPIOLACTONE	57578
0-139	PROPIONALDEHYDE	123386
0-140	PROPOXUR (BAYGON)	114261
0-141	PROPYLENE DICHLORIDE (1,2- DICHLOROPROPANE)	78875
0-142	PROPYLENE OXIDE	75569
0-143	1,2-PROPYLENIMINE (2- METHYLAZIRIDINE)	75558
0-144	QUINOLINE	91225
0-145	QUINONE	106514
0-146	STYRENE	100425
0-147	STYRENE OXIDE	96093
0-148	2,3,7,8-TETRACHLORODIBENZO-p-DIOXIN	1746016
0-149	1,1,2,2-TETRACHLOROETHANE	79345
0-150	TETRACHLOROETHYLENE (PERCHLOROETHYLENE)	127184
0-151	TITANIUM TETRACHLORIDE	7550450
0-152	TOLUENE	108883
0-153	2,4-TOLUENE DIAMINE	95807
0-154	2,4-TOLUENE DIISOCYANATE	584849
0-155	o-TOLUIDINE	95534
0-156	TOXAPHENE (CHLORINATED CAMPHENE)	8001352
0-157	1,2,4-TRICHLOROBENZENE	120821
0-158	1,1,2-TRICHLOROETHANE	79005
0-159	TRICHLOROETHYLENE	79016
0-160	2,4,5-TRICHLOROPHENOL	95954
0-161	2,4,6-TRICHLOROPHENOL	88062
0-162	TRIETHYLAMINE	121448
0-163	TRIFLURALIN	1582098
0-164	2,2,4-TRIMETHYLPENTANE	540841
0-165	VINYL ACETATE	108054
0-166	VINYL BROMIDE	593602
0-167	VINYL CHLORIDE	75014
0-168	VINYLDENE CHLORIDE (1,1- DICHLOROETHYLENE)	75354
0-169	XYLENES (ISOMERS AND MIXTURE)	1330207
0-170	o-XYLENES	95476
0-171	m-XYLENES	108383
0-172	p-XYLENES	106423
0-173	ANTIMONY COMPOUNDS	
0-174	ARSENIC COMPOUNDS (INORGANIC INCLUDING ARSINE)	
0-175	BERYLLIUM COMPOUNDS	

HAP Identification Code	Chemical Name	CAS Number
0-176	CADMIUM COMPOUNDS	
0-177	CHROMIUM COMPOUNDS	
0-178	COBALT COMPOUNDS	
0-179	COKE OVEN EMISSIONS	
0-180	CYANIDE COMPOUNDS{1}	
0-181	GLYCOL ETHERS{2}	
0-182	LEAD COMPOUNDS	
0-183	MANGANESE COMPOUNDS	
0-184	MERCURY COMPOUNDS	
0-185	FINE MINERAL FIBERS{3}	
0-186	NICKEL COMPOUNDS	
0-187	POLYCYCLIC ORGANIC MATTER{4}	
0-188	RADIONUCLIDES (INCLUDING RADON){5}	
0-189	SELENIUM COMPOUNDS	

Note: For all listings above containing the word "Compounds" and for glycol ethers, the following applies: Unless otherwise specified, these listings are defined as including any unique chemical substance that contains the named chemical (i.e., antimony, arsenic) as part of that chemical's infrastructure.

{1} X'CN

where

X = H or any other group where a formal dissociation may occur. For example, KCN or Ca(CN)(2).

{2} Includes mono- and di-ethers of ethylene glycol, diethylene glycol, and triethylene glycol R-(OCH(2)CH(2))n-OR'

where

n = 1, 2, or 3

R = alkyl or aryl groups

R' = R, H, or groups which, when removed, yield glycol ethers with the structure: R-(OCH(2)CH)n-OH Polymers are excluded from the glycol category

{3} Includes mineral fiber emissions from facilities manufacturing or processing glass, rock, or slag fibers (or other mineral derived fibers) of average diameter 1 micrometer or less.

{4} Includes organic compounds with more than one benzene ring, and which have a boiling point greater than or equal to 100 C.

{5} A type of atom that spontaneously undergoes radioactive decay.



## SECTION 2

### CULTURAL RESOURCES MANAGEMENT

#### Rhode Island Supplement, March 1998

This section covers the state requirements for Cultural Resources Management and is intended to supplement the U.S. TEAM Guide. Refer to the U.S. TEAM Guide and the DOD Component Supplements for Federal, DOD, and service-specific requirements.

#### Definitions

- *Agency* - the agency, department, or instrumentality of state government, a city or town, which is responsible for the undertaking or which has custody or jurisdiction over the historic property (RI: Procedures for Registration and Protection of Historic Properties (Adopted 14 October 1987) (II)).
- *Agency Official* - the individual who is authorized to act on behalf of the agency (RI: Procedures for Registration and Protection of Historic Properties (Adopted 14 October 1987) (II)).
- *Antiquities Permit* - the certificate issued by the Commission to a qualified individual which authorizes excavation, curation, storage, use, or display of archaeological specimens or artifacts (RI: Procedures for Registration and Protection of Historic Properties (Adopted 14 October 1987) (II)).
- *Commission* - the RI Historical Preservation Commission as established by the General Laws of RI 42-45 et. seq. (RI: Procedures for Registration and Protection of Historic Properties (Adopted 14 October 1987) (II)).
- *Executive Director* - the Executive Director of the Commission as appointed pursuant to the General Laws of RI 42-45-8, or a designee authorized to act for the Executive Director (RI: Procedures for Registration and Protection of Historic Properties (Adopted 14 October 1987) (II)).
- *Historic Property* -
  1. Any district, site, building, structure, or object listed in the state register. Properties may be listed in the state register through concurrent listing in the National Register of Historic Places or alternatively for the purposes of these regulations the Commission may determine that properties meet the criteria for registration.
  2. Any building, site, object, or artifact of historical, architectural, or archaeological interest listed in the catalog of state-owned historic properties.
  3. Any archaeological resource, including specimens, sites, and underwater resources subject to Commission permits or advisories pursuant to the General Laws of RI 42-45.1 et. seq. (RI: Procedures for Registration and Protection of Historic Properties (Adopted 14 October 1987) (II)).
- *Indian Tribe* - the governing body of any Indian tribe, band, nation, or other group that is recognized as an Indian tribe by the Secretary of the Interior or for which the U.S. holds land in trust or restricted status for that entity or its members (RI: Procedures for Registration and Protection of Historic Properties (Adopted 14 October 1987) (II)).
- *Removal* - a relocation of a structure on its site or to another site (RI Historical Area Zoning 45-24.1-1.1).
- *State Register* - any district, site, building, structure, or object listed in the register compiled by the Commission in accordance with RIGL 4245-S (a) and (b). Properties are listed in the state register in accordance with Section III of these regulations (RI: Procedures for Registration and Protection of Historic Properties (Adopted 14 October 1987) (II)).

- *State Register Criteria* - the criteria established by the Commission for use in evaluating the eligibility of properties for the state register (RI: Procedures for Registration and Protection of Historic Properties (Adopted 14 October 1987) (II)).
- *Undertaking* - any action which may affect a historic property which is:
  1. proposed, authorized, licensed, sanctioned, carried out, or funded by the state or any instrumentality or subdivision of state government
  2. funded by a city or town
  3. involves an historic property owned, in part or in whole, by the state, a city, or town
  4. involves archaeological excavation on lands or under waters owned or controlled by the state, its agencies, or political subdivisions or on any historic or archaeological properties listed on the state register or designated as a state archaeological landmark as well as the curation, storage, use, or display of archaeological specimens or artifacts recovered from lands or under waters owned or under the jurisdiction of the state (RI: Procedures for Registration and Protection of Historic Properties (Adopted 14 October 1987) (II)).

<p><b>CULTURAL RESOURCES MANAGEMENT GUIDANCE FOR RHODE ISLAND CHECKLIST USERS</b></p>				
<p><b>REFER TO CHECKLIST ITEMS:</b></p>				
<table><tr><td>Historic Properties</td><td>CR.5.1.RI. through CR.5.3.RI.</td></tr><tr><td>Archaeological/Indian Sites</td><td>CR.15.1.RI.</td></tr></table>	Historic Properties	CR.5.1.RI. through CR.5.3.RI.	Archaeological/Indian Sites	CR.15.1.RI.
Historic Properties	CR.5.1.RI. through CR.5.3.RI.			
Archaeological/Indian Sites	CR.15.1.RI.			



**COMPLIANCE CATEGORY:  
CULTURAL RESOURCES MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>CR.5. HISTORIC PROPERTIES</b></p> <p><b>CR.5.1.RI.</b> Projects that impact historic properties must be reviewed through the RI Historical Preservation Commission (RI: Procedures for Registration and Protection of Historic Properties (Adopted 14 October 1987) (IV) (b through e)).</p> <p><b>CR.5.2.RI.</b> Projects that will have an adverse effect on historic resources must go through a consultation process with the Historical Preservation Commission (RI: Procedures for Registration and Protection of Historic Properties (Adopted 14 October 1987) (IV) (f)).</p>	<p>Verify that the installation/CW facility informs the Executive Director of the Historical Preservation Commission about any planned or executed projects that impact historic properties.</p> <p>Verify that the installation/CW facility makes the following requests to the Executive Director:</p> <ul style="list-style-type: none"> <li>- to review existing information on historic properties potentially affected by the undertaking</li> <li>- to review any data concerning the likelihood that unidentified historic properties exist in the area of potential effects</li> <li>- to recommend further actions needed to identify historic properties that may be affected.</li> </ul> <p>Verify that the installation/CW facility seeks information from the following:</p> <ul style="list-style-type: none"> <li>- local governments</li> <li>- Indian tribes</li> <li>- public and private organizations</li> <li>- other parties likely to have knowledge of or concerns with historic properties in the area.</li> </ul> <p>Verify that the installation/CW facility provides the Executive Director and any of the other consulting parties with the necessary documentation to provide guidance in reviewing the project.</p> <p>Verify that the installation/CW facility provides the Executive Director with all data and information necessary to identify and evaluate such alternatives.</p> <p>Verify that the installation/CW facility provides an adequate opportunity for members of the public to receive information and express their views.</p> <p>Verify that the installation/CW facility considers prudent and feasible alternatives to the proposed project which could avoid, minimize, or mitigate the adverse effect.</p> <p>Verify that the installation/CW facility maintains a record, including a record of all sources of information consulted, which documents all alternatives considered</p>

**COMPLIANCE CATEGORY:  
CULTURAL RESOURCES MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>CR.5.3.RI.</b> Installations/CW facilities must take specific steps for the discovery of historic properties in the course of an undertaking (RI: Procedures for Registration and Protection of Historic Properties (Adopted 14 October 1987) (X) (a and b)).</p>	<p>during the consultation process.</p> <p>Verify that the installation/CW facility develops a plan for the treatment of historic properties, in the event that they are discovered in the course of an undertaking.</p> <p>Verify that the installation/CW facility follows its plan for the treatment of historic properties, as a condition of the undertaking.</p> <p>Verify, if the discovered property meets the criteria of an historic property, that the installation/CW facility seeks ways, in consultation with the Executive Director, to avoid, minimize, or mitigate adverse effects to the property.</p> <p>(NOTE: When an undertaking involves Federal government participation and is subject to review under Section 106 of the National Historic Preservation Act, review of the undertaking in accordance with the procedures of the Advisory Council on Historic Preservation (36 CFR 800) (see CR.5.2 in the TEAM Guide) may satisfy the requirements of these regulations and constitute compliance with the RI Historic Preservation Act.)</p>

**COMPLIANCE CATEGORY:  
CULTURAL RESOURCES MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>CR.15. ARCHAEOLOGICAL/ INDIAN SITES</b></p> <p><b>CR.15.1.RI.</b> Archaeological field investigations must be permit through the Historical Preservation Commission (RI: Procedures for Registration and Protection of Historic Properties (Adopted 14 October 1987) (XIV) (a through g)).</p>	<p>Verify that the installation/CW facility applies for a permit prior to conducting archaeological field investigations.</p> <p>Verify that the installation/CW facility complies with all reasonable requests or directives with respect to the permitted operations.</p>



## SECTION 3

### HAZARDOUS MATERIALS MANAGEMENT

Rhode Island Supplement, March 1998

This section covers the state requirements for Hazardous Materials Management and is intended to supplement the U.S. TEAM Guide. Refer to the U.S. TEAM Guide and the DOD Component Supplements for Federal, DOD, and service-specific requirements.

#### Adoption of Federal Standards

The rules and safety regulations promulgated by the U.S. Department of Transportation, Federal Highway Administration, Bureau of Motor Carrier Safety, as contained in Title 49 of the Code of Federal Regulations, known as the "Federal Motor Carrier Safety Regulations", are adopted as the safety rules and regulations of the Rhode Island Department of Transportation, governing all motor carriers, where such Federal regulations are not in conflict with the laws of the State of Rhode Island (Code of Rhode Island Rules (CRIR) 01 100 029(3.0)).

The Fire Prevention Code of the National Fire Protection Association, Inc., Standard 1 (NFPA 1), 1992 edition, with appendices (except those portions specifically amended, is adopted by reference as the Rhode Island Fire Prevention Code (CRIR 42 000 001). Amendments of note include:

Tank Storage: 7-28-2.3.3 Section 7-28-2.3.3, which includes sections 7-28-2.3.3.1, 7-28-2.3.3.2 and 7-28-2.3.3.3 of the Rhode Island Fire Prevention Code is reserved.

Liquefied Petroleum Gases Liquefied Natural Gases: 7-30-1.1 Chapter 7-30 of the Rhode Island Fire Prevention Code is reserved.

Explosive Materials: 7-38-1.1 Chapter 7-38 of the Rhode Island Fire Prevention Code is reserved.

#### Definitions

- *Aquifer* - a geologic formation, group of formations, or part of a formation capable of yielding a significant amount of groundwater to wells, springs or surface water (CRIR 12 180 001(3.00)).
- *Authorized Representative* - any individual employed by any person, including all forms of private, governmental and commercial entities included thereunder, in a position to commit the resources of that person and bind that person to any responsibilities and/or liabilities set forth under these regulations (CRIR 12 180 001(3.00)).
- *Background* - the ambient concentrations of hazardous substances present in the environment that have not been influenced by human activities or the ambient concentrations of hazardous substances consistently present in the environment in the vicinity of the site which are the result of human activities unrelated to releases at the site (CRIR 12 180 001(3.00)).
- *Department* - the Department of Environmental Management (CRIR 12 180 001(3.00)).
- *Director* - the Director of the Department of Environmental Management, or that Director's designee (CRIR 12 180 001(3.00)).
- *Emergency and Short-Term Response Action* - any activities undertaken immediately following the discovery of a release of hazardous material in order to completely or partially contain, clean up or treat the released material and remove an imminent hazard if it exists (CRIR 12 180 001(3.00)) [Revised March 1998].
- *Environmentally Sensitive Area* - any of the following areas (CRIR 12 180 001(3.00)) [Revised March 1998]:

1. Areas which provide habitat for Federally endangered or threatened species as determined by the U.S. Department of Fish and Wildlife
  2. Areas which provide habitat for State endangered or threatened species as determined by the Department through the Natural Heritage Program
  3. Surface Water classified A, B or C by the Department or Wetlands
  4. Coastal areas designated as Type 1 Conservation Areas or Type 2 Low-Intensity Use by the Rhode Island Coastal Resources Management Council
  5. Tidal waters classified SA by the Department
  6. State parks, management areas, wildlife areas or marine sanctuaries, or
  7. Natural areas owned or operated by government agencies or not-for-profit organizations for the purposes of preserving the natural character of the property.
- *GA/GAA Area* - any area having a Groundwater classification of GA or GAA, including GA and GAA non-attainment designations, in accordance with the Groundwater Quality Regulations (CRIR 12 180 001(3.00)) [Added March 1998].
  - *GA Groundwater Objectives* - the concentrations of Hazardous Substances in Groundwater protective of human health and the environment which are identified in Table 3 of Rule 8.03.B.i (see Appendix 3-2) or any other GA Groundwater Objective approved by the Director (CRIR 12 180 001(3.00)) [Added March 1998].
  - *GA Leachability Criteria* - the concentrations of Hazardous Substances in soil identified in Table 2 of Rule 8.02.B. (see Appendix 3-2) or any other GA Leachability Criteria approved by the Director (CRIR 12 180 001(3.00)) [Added March 1998].
  - *GB Area* - any area having a Groundwater classification of GB, including GB non-attainment designations, in accordance with the Groundwater Quality Regulations (CRIR 12 180 001(3.00)) [Added March 1998].
  - *GB Groundwater Objectives* - the concentrations of Hazardous Substances in Groundwater protective of human health and the environment which are identified in Table 4 of Rule 8.03.B.ii (see Appendix 3-2) or any other GB Groundwater Objective approved by the Director (CRIR 12 180 001(3.00)) [Added March 1998].
  - *GB Leachability Criteria* - the concentrations of Hazardous Substances in soil identified in Table 2 of Rule 8.02.B (see Appendix 3-2) or any other GB Leachability Criteria approved by the Director (CRIR 12 180 001(3.00)) [Added March 1998].
  - *Groundwater* - water found underground which completely fills the open spaces between particles of sand, gravel, clay, silt and consolidated rock fractures. The zone of materials filled with groundwater is called the zone of saturation (CRIR 12 180 001(3.00)).
  - *Hazardous Material* - any material or combination or mixture of materials containing any Hazardous Substance. Hazardous Material does not include petroleum as defined in these regulations (i.e., virgin petroleum products) (CRIR 12 180 001(3.00)) [Revised March 1998].
  - *Hazardous Substance* - any substance designated as such pursuant to 40 CFR 300.5 (incorporated by reference and attached in Appendix A). Hazardous Substance also includes any material that meets the definition of Hazardous Waste. Hazardous Substance shall not include, for the purposes of these regulations, asbestos or radioactive materials (CRIR 12 180 001(3.00)) [Added March 1998].
  - *Imminent Hazard* - a release of hazardous material meeting any of the following criteria:
    1. The release poses an immediate and substantial threat or risk of acute or chronic adverse effect on human health.
    2. The release poses a threat or risk of harm which could cause immediate destruction or significant adverse impact on an environmentally sensitive area or the contamination of a wellhead protection area or other drinking water source.

3. The release poses an immediate threat of fire or explosion. Further factors to consider when evaluating releases resulting in a threat of fire and explosion include:
    - a. the ignitability of the hazardous material, and the mixture resulting from the release of the hazardous material
    - b. the reactivity of the hazardous material, and the mixture resulting from the release of the hazardous material
    - c. the potential incompatibility of the hazardous material, and the mixture resulting from the release of the hazardous material, with other materials which can reasonably be expected to be stored or handled in the area of the release
    - d. the potential impacts of a fire and/or explosion.
  4. The release may be influenced by site-specific factors which have the potential to lead to an imminent threat to human health and the environment (CRIR 12 180 001(3.00)).
- *Overburden* - the material present in the ground above bedrock (CRIR 12 180 001(3.00)).
  - *Petroleum* - any virgin petroleum product including the following products (CRIR 12 180 001(3.00)) [Added March 1998]:
    1. Unused distillate and residual oil including but not limited to gasoline, aviation fuels, kerosene, diesel, and heating oils
    2. Unused crankcase oil, lubricants, hydraulic oils, penetrant oils, tramp oils, quench oils, and other industrial oils.
  - *Public Water Supply System* - a system for the provision to the public of piped water for human consumption, provided such a system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year (CRIR 12 180 001(3.00)).
  - *Release* - defined by 40 CFR 300.5 (incorporated by reference) for purposes of these regulations, but excludes any release from a process, activity or contaminated-site allowed under a permit, license or approval by any regulatory process or legal authority; any release of hazardous materials solely derived from common household materials and occurring at the household; or any release that is completely contained within an area or structure designed and engineered to contain such materials. For purposes of these regulations, release also includes an actual or potential threat of release. Concentrations of PCBs greater than 10 µg/100 cm<sup>2</sup>, as measured by a standard wipe test, on any surface constitute a Release. The Director may determine that an area with PCB contamination at concentrations lower than specified above requires investigation and/or remediation due to site-specific circumstances (CRIR 12 180 001(3.00)) [Revised March 1998].
  - *Remediation* - the act of implementing, operating and maintaining, a remedy or remedial action (CRIR 12 180 001(3.00)).
  - *Remedy or Remedial Action* - those actions taken to rectify the effects of a release of hazardous material, so that it does not cause a significant risk to present or future public health or welfare, or the environment (CRIR 12 180 001(3.00)).
  - *Responsible Party* - any or all of the following persons (CRIR 12 180 001(3.00)) [Revised March 1998]:
    1. The owner or operator of a vessel, transport vehicle, or a contaminated-site at which there is a known or suspected release.
    2. Any person who, at the time of storage or disposal of any hazardous material, owned or operated a site at which there is a known or suspected release.
    3. Any person who, by contract, agreement, or otherwise, directly or indirectly, arranged for the disposal of hazardous material at a contaminated-site at which there has been a known or suspected release
    4. Any person who, directly or indirectly, transported any hazardous waste to a storage, disposal or treatment facility, vessel, transport vehicle or site at which there is a known or suspected release
    5. Any person who otherwise caused or is legally responsible for a release of hazardous material from a vessel, transport vehicle or operation at a site.

6. The person or legal entity controlling a site, transport vehicle, vessel or activity that contains or held to a known or suspected release.
  7. Responsible party also means any and all combinations of the above mentioned persons.
- *Source Area* - the horizontal and vertical extent of natural or man-made media impacted by a release of Hazardous Materials or causing a release of Hazardous Materials at concentrations in excess of the reportable concentrations described in Rule 5.01.B (Reportable Concentrations for Soil) and Rule 5.01.C (Reportable Concentrations for Groundwater) (see Appendix 3-2), and determined by the Department to pose a potential threat to human health and the environment. For purposes of these regulations, sanitary landfills licensed under the Rules and Regulations for Solid Waste Management Facilities on or after 18 June 1992 are not source areas (CRIR 12 180 001(3.00)) [Revised March 1998].
  - *Surface Water* - any body of water open to the atmosphere including brooks, streams, rivers, ponds, lakes, bays or wetlands (CRIR 12 180 001(3.00)).
  - *Vessel* - any boat or watercraft whether moved by oars, paddles, sails, or other power mechanism, inboard or outboard, or any other boat or structure floating upon the water whether or not capable of self locomotion, including house boats, barges and similar floating objects (CRIR 12 180 001(3.00)).
  - *Well* - a bored, drilled, or driven shaft or a dug hole, with a depth that is greater than its largest surface dimension, through which groundwater has flowed, flows, or may flow under natural or induced pressure and that has been modified for purposes of obtaining water (CRIR 12 180 001(3.00)).

<p align="center"><b>HAZARDOUS MATERIALS MANAGEMENT GUIDANCE FOR RHODE ISLAND CHECKLIST USERS</b></p>	
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<p align="center"><b>REFER TO CHECKLIST ITEMS:</b></p>	
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<p>All Installations/CW Facilities Releases of Hazardous Materials</p>	<p>HM.5.1.RI. and HM.5.2.RI. HM.20.1.RI. through HM.20.5.RI.</p>
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<p align="center"><b>GUIDANCE FOR APPENDIX USERS</b></p>	
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<b>APPENDIX NUMBER:</b>	<b>APPENDIX TITLE:</b>
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<p>3-1</p>	<p>Hazardous Chemicals Reference Materials</p>
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<p>3-2</p>	<p>Soil and Groundwater Objectives</p>
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**COMPLIANCE CATEGORY:  
HAZARDOUS MATERIALS MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>HM.5. ALL INSTALLATIONS/ CW FACILITIES</b></p> <p><b>HM.5.1.RI.</b> Installations/ CW facilities must maintain a current list of all chemicals manufactured, stored, used, or handled (CRIR 16 010 003(III.a)) [Added March 1998].</p> <p><b>HM.5.2.RI.</b> Hazardous chemicals must meet labeling requirements (CRIR 16 010 003(III.i through l)) [Added March 1998].</p>	<p>Verify that the installation/CW facility maintains a current list of all chemicals manufactured, used, stored, or handled.</p> <p>Verify that this list uses the terminology or chemical names usually used by the American Chemical Society (see Appendix 3-1, paragraph "2").</p> <p>Verify that when hazardous chemicals are delivered from outside the borders of this State, the U. S. Department of Transportation Dangerous Article Label (see Appendix 3-1, paragraph "5") remains on the container in good condition until the container is emptied, cleaned and disposed of, or returned to its owner.</p> <p>Verify that if the hazardous chemical is transferred to another container (jig, vat, sink, jar or other vessel) it is properly identified as to its contents.</p> <p>Verify that other than bulk quantities of hazardous chemicals are labeled with an appropriate tag or other durable marker, bearing the following appropriate legend in clear, easily readable type:</p> <ul style="list-style-type: none"> <li>- chemical name</li> <li>- signal word, such as "Danger", "Warning", or "Caution"</li> <li>- hazard, such as Flammable, Volatile, Poisonous, Asphyxiant</li> <li>- precautionary measures such as Keep Away From Open Flame, Keep In Cool Place, Do Not Inhale Vapors</li> <li>- instructions in case of accident.</li> </ul> <p>Verify that if the hazardous chemical is transferred to another container (jig, vat, sink, jar or other vessel) it too is properly labeled as to its contents, and that the label remains on the container and in good condition until the contents of the container are used.</p> <p>Verify that mixtures composed of hazardous chemicals carry a label stating the significant hazards, and the cautions appropriate to such hazards.</p> <p>(NOTE: This requirement applies only to mixtures when and to the extent that a hazard of any ingredient is present in the product.)</p> <p>Verify that bulk tanks at fixed loading and unloading stations are properly</p>

<p align="center"><b>COMPLIANCE CATEGORY:</b>  <b>HAZARDOUS MATERIALS MANAGEMENT</b>  <b>Rhode Island Supplement</b></p>	
<p align="center"><b>REGULATORY REQUIREMENTS:</b></p>	<p align="center"><b>REVIEWER CHECKS:</b>  <b>March 1998</b></p>
	<p>identified as to contents.</p> <p>(NOTE: Color codes, number systems, chemical labels, locked spigots or valves, or combinations of these safeguards should be used under supervision to attain this end.)</p>

**COMPLIANCE CATEGORY:  
HAZARDOUS MATERIALS MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>HM.20. RELEASES OF HAZARDOUS MATERIALS</b></p> <p><b>HM.20.1.RI.</b> Installations/ CW facilities with unpermitted releases of hazardous materials must meet response requirements (CRIR 12 180 001(4.02)) [Revised March 1998].</p> <p><b>HM.20.2.RI.</b> Installations/ CW facilities with releases of hazardous materials must meet notification requirements (CRIR 12 180 001(5.01)) [Revised March 1998].</p>	<p>Verify that when installations/CW facilities discover (or are notified of) a potential unpermitted disposal, release or presence of hazardous materials on or from its property, investigations and actions are immediately initiated.</p> <p>(NOTE: Any release which is solely the result of an underground injection control system or a leaking underground storage tank is exempt from the reporting requirements of this regulation.)</p> <p>Verify that installations/CW facilities that have releases of hazardous materials resulting in concentrations of hazardous substances in excess of any of the soil objectives (see Appendix 3-2), or which are in an amount and concentration that presents a significant potential to cause an acute or chronic adverse effect on human health or the environment, notify the Division in writing within 15 days of the discovery of the release.</p> <p>(NOTE: Notification of a release for soil is not required if all of the following site conditions are met:</p> <ul style="list-style-type: none"> <li>- the release has impacted an area currently limited to industrial/commercial activity</li> <li>- the reasonably foreseeable future use of the property impacted by the release is limited to industrial/commercial activity</li> <li>- the groundwater underlying the site is classified as a GB area</li> <li>- there are no well head protection areas or active wells known to the performing party or their representatives within 500 ft</li> <li>- the hazardous substances of concern are listed in Table 1 and Table 2 and are at concentrations which are below the industrial/commercial direct exposure criteria (see Appendix 3-2), and below the GB leachability criteria as listed in those tables</li> <li>- there are no GA/GAA areas within 500 ft of the release</li> <li>- the abutting properties are used for industrial/commercial activity</li> <li>- there is no physical boundary of any wetland or surface water within 500 ft of the release.)</li> </ul> <p>Verify that installations/CW facilities that have releases that have impacted or threaten to impact groundwater notify the Department in writing within 15 days of</p>

**COMPLIANCE CATEGORY:  
HAZARDOUS MATERIALS MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>HM.20.3.RI.</b> Written notifications of hazardous material releases must contain certain Information (CRIR 12 180 001(5.02)) [Added March 1998].</p>	<p>the discovery of the release when:</p> <ul style="list-style-type: none"> <li>- any hazardous substance in groundwater is at a concentration which exceeds any of the groundwater objectives for the hazardous substance as specified in Tables 3 and 4 (see Appendix 3-2)</li> <li>- any hazardous substance in groundwater which is not specified in Tables 3 or 4 (see Appendix 3-2) is in an amount and concentration which presents a significant potential to cause an acute or chronic adverse effect on human health or the environment</li> <li>- a responsible party has reasonable cause to believe that a discharge or release has occurred which may result in an exceedance of any appropriate groundwater objective.</li> </ul> <p>Verify that the written notification includes all of the following information:</p> <ul style="list-style-type: none"> <li>- the names, addresses and telephone numbers of: <ul style="list-style-type: none"> <li>- the person notifying the Department of the release</li> <li>- the owner(s) and operator(s) of any properties impacted by the release or of the vessel where the release has occurred</li> <li>- any other responsible parties</li> <li>- the contact person at the impacted area or vessel where the release has occurred</li> </ul> </li> <li>- the city/town, street address, legal description (plat and lot) and the general location of the area impacted by the release</li> <li>- the date of and the circumstances leading to and surrounding the discovery of the release</li> <li>- an identification of the hazardous material released, the approximate concentrations of hazardous substances in the released material and the approximate quantity of the hazardous material released</li> <li>- an initial estimate of the source of the release and the extent of contamination resulting from the release</li> <li>- measures taken or proposed to be taken in response to the release as of the time of notification</li> <li>- any other relevant information relating to the potential environmental impacts</li> <li>- other factors evaluated in determining whether or not the release presents an imminent hazard, including but not limited to: <ul style="list-style-type: none"> <li>- a determination as to whether a release of hazardous material has the potential to adversely impact any wetland or surface water</li> <li>- a determination as to whether the extent of hazardous material contamination in soil or groundwater is within 500 ft of a surface water or wetland</li> </ul> </li> <li>- a determination as to whether the release impacts an area utilized for residential activity, industrial/commercial activity, or both</li> <li>- an identification of the underlying groundwater classification, and if the classification is GB, the distance to the nearest GA/GAA area</li> <li>- an indication of whether a background determination will be performed and</li> </ul>

**COMPLIANCE CATEGORY:  
HAZARDOUS MATERIALS MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>HM.20.4.RI.</b> Emergency and Short-Term Response Actions must meet specific criteria (CRIR 12 180 001(6.01, 6.02, 6.04, 6.06, and 6.08)) [Revised March 1998].</p> <p><b>HM.20.5.RI.</b> Installations/ CW facilities must submit a report upon completing any Emergency Response Action (CRIR 12 180 001(6.09 and 6.10)) [Revised March 1998].</p>	<p>submitted subsequent to notification.</p> <p>Verify that installations/CW facilities immediately take appropriate action to stop or minimize a release of hazardous material posing an imminent hazard and any on-going spill of hazardous material.</p> <p>Verify that all Emergency and Short-Term Response Actions are conducted in a manner which is protective of human health and the environment, and does not increase the potential for harm to human health or the environment.</p> <p>Verify that all Emergency and Short-Term Response Actions which include the treatment of hazardous material or substances contaminated by the release are approved by the Director prior to initiation.</p> <p>Verify that, in cases where on-site treatment of hazardous waste is necessary to remove the imminent hazard, and it is anticipated to take longer than 24-h, the installation/CW facility obtains an Emergency Permit.</p> <p>Verify that the installation/CW facility, throughout the implementation of the emergency action, monitors and evaluates the performance, effectiveness and completeness of the action in abating, preventing or eliminating contamination and, more specifically, the imminent hazard identified at the site.</p> <p>Verify that, following the completion of any Emergency and Short-Term Response Action, the installation/CW facility prepares an Emergency and Short-Term Response Report providing a detailed summary of all investigations and activities taken in response to the release.</p> <p>Verify that this report is submitted to the Department within 30 days of completion of the emergency response action.</p> <p>Verify that the Emergency and Short-Term Response Report contains, where applicable, at least the following information:</p> <ul style="list-style-type: none"> <li>- the basis for the determination that the release presented an imminent hazard</li> <li>- the design specifications of any physical structures built or installed as part of the response</li> <li>- a site plan showing the areal extent of the release and noting the following: <ul style="list-style-type: none"> <li>- all treatment units</li> <li>- pertinent structures</li> <li>- pertinent areas</li> <li>- other aspects of the release and Emergency and Short-Term Response Action</li> </ul> </li> <li>- documentation of any offsite migration of released material including notation of any factors, such as weather conditions, which may have caused</li> </ul>

**COMPLIANCE CATEGORY:  
HAZARDOUS MATERIALS MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
	<p>or aggravated this migration</p> <ul style="list-style-type: none"> <li>- the locations of all samples taken, including those from monitoring activities, and the results of the analysis of those samples</li> <li>- the manifests, receipts, and/or bills of lading for any hazardous material or material contaminated from the release leaving the site</li> <li>- the nature, concentrations, and extent of residual contamination</li> <li>- in cases where the responsible party considers the Emergency Response Action as the final remedy, the absence of significant residual contamination must be demonstrated</li> <li>- in cases where an Emergency Permit was issued, evidence that Public Notice was issued.</li> </ul> <p>Verify that the Emergency and Short-Term Response Report and all associated progress reports include the following:</p> <ul style="list-style-type: none"> <li>- a statement signed by an authorized representative of the person who prepared the Emergency and Short-Term Response Report certifying the accuracy of the information contained in that report to the best of their knowledge</li> <li>- a statement signed by the responsible party responsible for the submittal of the Emergency and Short-Term Response Report certifying that the report is a complete and accurate representation of the site and the release and contains all known facts surrounding the release to the best of their knowledge.</li> </ul>

**Appendix 3-1**  
**Hazardous Chemicals Reference Materials**  
(CRIR 16 010 003, Appendix) [Added March 1998]

The following pamphlets, texts or volumes are used as reference material in this code. Many of them can be consulted or read in local public libraries. Those publications of the National Fire Protection Association are available in most fire stations or local building inspection departments. They may also be purchased at the addresses listed below:

- "1" American Conference of Governmental Industrial Hygienists, c/o The Bureau of Occupational Safety and Health, 1014 Broadway, Cincinnati, Ohio 45202, "Threshold Limit Values of Airborne Contaminants".
- "2" American Chemical Society, 733 3rd Ave., New York, New York, "Chemical Abstracts".
- "3" United States Department of the Interior, Bureau of Mines, Washington, D.C., "Personal Protective Equipment".
- "4" American National Standards Institute (ANSI), 1430 Broadway, New York, New York 10018, "Practice for Occupational and Educational Eye and Face Protection" Z87.1 -- 1968.
- "5" United States Department of Transportation, Washington, D.C., "Dangerous Article Label".
- "6" Manufacturing Chemists' Association, 1825 Connecticut Ave., N.W., Washington, D.C., "A Guide for the Preparation of Warning Labels for Hazardous Chemicals", "Chemical Safety Data Sheets".
- "7" National Fire Protection Association, 60 Batterymarch Street, Boston, Massachusetts 02110, "Volume I, Flammable Liquids and Gases".
- "8" National Electric Code, National Fire Protection Association, 60 Batterymarch Street, Boston, Massachusetts 02110, "N.F.P.A. No. 70".
- "9" American Society of Mechanical Engineers, United Engineering Center, 345 East 47th Street, New York, New York, "A.S.M.E. Boiler and Pressure Vessel Code" Section VIII.
- "10" National Fire Protection Association, 60 Batterymarch Street, Boston, Massachusetts 02110, "Volume III, Building Construction and Equipment".
- "11" R.I. Department of Labor, Division of Industrial Inspection, 235 Promenade Street, Providence, R. I., R.I. Industrial Safety Code No. 15, "Relating to Occupational Radiation Protection".
- "12" United States Department of Health, Education and Welfare, Public Health Service, Bureau of Occupational Safety and Health, Washington, D.C., "Approved Analytical Methods".
- "13" American Industrial Hygiene Association, c/o Edwin J. Boier, Secretary, Division of Occupational Health, Pennsylvania Department of Health, Harrisburg, Pennsylvania 17120, "Approved Analytical Methods".
- "14" Industrial Health Foundation of America, 5231 Central Avenue, Pittsburgh, Pennsylvania, Pamphlets & Newsletters.

Additional Reference not specifically included in this code for general information:

National Safety Council, 425 North Michigan Avenue, Chicago, Illinois, Safe Practices and Health Practices Pamphlet.



**Appendix 3-2**  
**Soil and Groundwater Objectives**  
(CRIR 12 180 001(8.02 and 8.03, Tables 1 through 4)) [Added March 1998]

**TABLE 1**

<b>DIRECT EXPOSURE CRITERIA</b>		
<b>Substance</b>	<b>Residential (mg/kg)</b>	<b>Industrial/Commercial (mg/kg)</b>
<b>Volatile Organics</b>		
Acetone	7,800	10,000
Benzene	2.5	200
Bromodichloromethane	10	92
Bromoform	81	720
Bromomethane	0.8	2900
Carbon tetrachloride	1.5	44
Chlorobenzene	210	10,000
Chloroform	1.2	940
Dibromochloromethane	7.6	68
Dibromochloropropane (DBCP)	0.5	4.1
Dichloroethane (1,1-)	920	10,000
Dichloroethane (1,2-)	0.9	63
Dichloroethene (1,1-)	0.2	9.5
Dichloroethene (cis-1,2-)	630	10,000
Dichloroethene (trans-1,2-)	1,100	10,000
Dichloropropane (1,2)	1.9	84
Ethyl benzene	71	10,000
Ethylene dibromide (EDB)	0.01	0.07
Isopropyl benzene	27	10,000
Methyl ethyl ketone	10,000	10,000

TABLE 1

DIRECT EXPOSURE CRITERIA		
Substance	Residential (mg/kg)	Industrial/Commercial (mg/kg)
Methyl isobutyl ketone	1200	10,000
Methyl-tert-butyl-ether (MTBE)	390	10,000
Methylene chloride	45	760
Styrene	13	190
Tetrachloroethane, 1,1,1,2	2.2	220
Tetrachloroethane, 1,1,2,2	1.3	29
Tetrachloroethylene	12	110
Toluene	190	10,000
Trichloroethane, 1,1,1-	540	10,000
Trichloroethane, 1,1,2-	3.6	100
Trichloroethylene	13	520
Vinyl chloride	0.02	3.0
Xylenes (Total)	110	10,000
Semivolatiles		
Acenaphthene	43	10,000
Acenaphthylene	23	10,000
Anthracene	35	10,000
Benzo(a)anthracene	0.9	7.8
Benzo(a)pyrene <sup>a</sup>	0.4	0.8
Benzo(b)fluoranthene	0.9	7.8
Benzo(g,h,i)perylene	0.8	10,000
Benzo(k)fluoranthene	0.9	78
Biphenyl, 1,1-	0.8	10,000
Bis(2-ethylhexyl)phthalate	46	410

TABLE 1

DIRECT EXPOSURE CRITERIA		
Substance	Residential (mg/kg)	Industrial/Commercial (mg/kg)
Bis(2-chloroethyl)ether	0.6	5.2
Bis(2-chloroisopropyl)ether	9.1	82
Chloroaniline, 4- (p-)	310	8200
Chlorophenol, 2-	50	10,000
Chrysene	0.4	780
Dibenzo(a,h)anthracene <sup>a</sup>	0.4	0.8
Dichlorobenzene, 1,2- (o-DCB)	510	10,000
Dichlorobenzene, 1,3- (m-DCB)	430	10,000
Dichlorobenzene, 1,4- (p-DCB)	27	240
Dichlorobenzidine, 3,3-	1.4	13
Dichlorophenol, 2,4-	30	6,100
Diethyl phthalate	340	10,000
Dimethyl phenol, 2,4-	1,400	10,000
Dimethyl phthalate	1900	10,000
Dinitrophenol, 2,4-	160	4,100
Dinitrotoluene, 2,4-	0.9	8.4
Fluoranthene	20	10,000
Fluorene	28	10,000
Hexachlorobenzene	0.4	3.6
Hexachlorobutadiene	8.2	73
Hexachloroethane	46	410
Indeno(1,2,3-cd)pyrene	0.9	7.8
Methyl naphthalene, 2-	123	10,000
Naphthalene	54	10,000
Pentachlorophenol	5.3	48

TABLE 1

DIRECT EXPOSURE CRITERIA		
Substance	Residential (mg/kg)	Industrial/Commercial (mg/kg)
Phenanthrene	40	10,000
Phenol	6,000	10,000
Pyrene	13	10,000
Trichlorobenzene, 1,2,4-	96	10,000
Trichlorophenol, 2,4,5-	330	10,000
Trichlorophenol, 2,4,6-	58	520
<b>Pesticides/PCBs</b>		
Chlordane	0.5	4.4
Dieldrin	0.04	0.4
Polychlorinated biphenyls (PCBs) <sup>b</sup>	10	10
<b>Inorganics</b>		
Antimony	10	820
Arsenic <sup>c</sup>	1.7	3.8
Barium	5,500	10,000
Beryllium <sup>c</sup>	0.4	1.3
Cadmium	39	1,000
Chromium III (Trivalent)	1,400	10,000
Chromium VI (Hexavalent)	390	10,000
Copper	3,100	10,000
Cyanide	200	10,000
Lead <sup>d</sup>	150	500
Manganese	390	10,000
Mercury	23	610
Nickel	1,000	10,000

TABLE 1

DIRECT EXPOSURE CRITERIA		
Substance	Residential (mg/kg)	Industrial/Commercial (mg/kg)
Selenium	390	10,000
Silver	200	10,000
Thallium	5.5	140
Vanadium	550	10,000
Zinc	6,000	10,000

- a Estimated quantitation limits
- b Direct exposure criteria for PCBs consistent with the Toxic Substance Control Act (TSCA)
- c Background Levels of Priority Pollutant Metals In Rhode Island Soils, T. O'Connor, RIDEM
- d Direct exposure criteria for Lead consistent with the Rhode Island Department of Health Rules and Regulations for Lead Poisoning Prevention [R23-24.6-PB], as amended

TABLE 2

LEACHABILITY CRITERIA		
Substance	GA Leachability (mg/kg except as otherwise noted)	GB Leachability (mg/kg)
<b>Volatile Organics</b>		
Benzene	0.2	4.3
Carbon tetrachloride	0.4	5.0
Chlorobenzene	3.2	100
Dichloroethane (1,2-)	0.1	2.3
Dichloroethylene (1,1-)	0.7	0.7
Dichloroethylene (cis-1,2-)	1.7	60
Dichloroethylene (trans-1,2-)	3.3	92
Dichloropropane (1,2)	0.1	70
Ethylbenzene	27	62
Ethylene dibromide (EDB)	5E-04	-
Methyl-tert-butyl-ether (MTBE)	0.9	100
Styrene	2.9	64
Tetrachloroethylene	0.1	4.2
Toluene	32	54
Trichloroethane (1,1,1-)	11	160
Trichloroethane (1,1,2-)	0.1	-
Trichloroethylene	0.2	20
Vinyl chloride	0.3	-
Xylenes	540	-
<b>Semivolatiles</b>		
Benzo(a)pyrene	240	-

TABLE 2

LEACHABILITY CRITERIA		
Substance	GA Leachability (mg/kg except as otherwise noted)	GB Leachability (mg/kg)
Dichlorobenzene (all isomers)	41	-
Diethylhexyl phthalate	120	-
Naphthalene	0.8	-
Pentachlorophenol	7.1	-
Trichlorobenzene (1,2,4-)	140	-
<b>Pesticides/PCBs</b>		
Chlordane	1.4	-
Polychlorinated biphenyls (PCBs) <sup>a</sup>	10.0	10.0
Substance	GA Leachability (mg/l)	
<b>Inorganics</b>		
Antimony (TCLP/SPLP)	0.05	-
Barium (TCLP/SPLP)	23	-
Beryllium (TCLP/SPLP)	0.03	-
Cadmium (TCLP/SPLP)	0.03	-
Chromium (TCLP/SPLP)	1.1	-
Cyanide (TCLP/SPLP)	2.4	-
Lead (TCLP/SPLP)	0.04	-
Mercury (TCLP/SPLP)	0.02	-
Nickel (TCLP/SPLP)	1	-
Selenium (TCLP/SPLP)	0.6	-

TABLE 2

LEACHABILITY CRITERIA		
Substance	GA Leachability (mg/kg except as otherwise noted)	GB Leachability (mg/kg)
Thallium (TCLP/SPLP)	0.005	-

"-" No Method 1 GB Leachability Criteria promulgated

<sup>a</sup> Leachability criteria for PCBs consistent with the Toxic Substance Control Act (TSCA)

TABLE 3

GA GROUNDWATER OBJECTIVES	
Substance	GA Groundwater Objective (mg/l)
<b>Volatile Organics</b>	
Benzene	0.005
Carbon tetrachloride	0.005
Chlorobenzene	0.1
Dibromomchloropropane(DBCP)	0.0002
Dichloroethane (1,2-)	0.005
Dichloroethylene (1,1-)	0.007
Dichloroethylene (cis-1,2-)	0.07
Dichloroethylene (trans-1,2-)	0.1
Dichloropropane (1,2-)	0.005
Ethylbenzene	0.7
Ethylene dibromide (EDB)	0.00005
Methyl tertiary butyl ether (MTBE)	0.04
Styrene	0.1
Tetrachloroethylene	0.005
Toluene	1
Trichloroethane (1,1,1-)	0.2
Trichloroethane (1,1,2-)	0.005
Trichloroethylene (TCE)	0.005
Trihalomethanes (Total)	0.1
Vinyl chloride	0.002
Xylenes (Total)	10

TABLE 3

GA GROUNDWATER OBJECTIVES	
Substance	GA Groundwater Objective (mg/l)
<b>Semivolatiles</b>	
Benzo(a)pyrene	0.0002
Dichlorobenzene (o-)	0.6
Dichlorobenzene (m-)	0.6
Dichlorobenzene (p-)	0.075
Diethylhexyl phthalate	0.006
Hexachlorobenzene	0.001
Methylene chloride	0.005
Naphthalene	0.02
Pentachlorophenol	0.001
Trichlorobenzene (1,2,4-)	0.07
<b>Pesticides/PCBs</b>	
Chlordane	0.002
Polychlorinated biphenyls (PCBs)	0.0005
<b>Inorganics</b>	
Antimony	0.006
Barium	2
Beryllium	0.004
Cadmium	0.005
Chromium (Total)	0.1
Cyanide	0.2
Lead	0.015

**TABLE 3**

GA GROUNDWATER OBJECTIVES	
Substance	GA Groundwater Objective (mg/l)
Mercury	0.002
Nickel	0.1
Selenium	0.05
Thallium	0.002

TABLE 4

## GB GROUNDWATER OBJECTIVES

Substance	GB Groundwater Objective (mg/l)
Benzene	0.14
Carbon Tetrachloride	0.07
Chlorobenzene	3.2
Dibromochloropropane (DBCP)	0.002
Dichloroethane (1,2-)	0.11
Dichloroethylene (1,1-)	0.007
Dichloroethylene (cis-1,2-)	2.4
Dichloroethylene (trans-1,2-)	2.8
Dichloropropane (1,2-)	3.0
Ethylbenzene	1.6
Styrene	2.2
Methyl Tertiary Butyl Ether (MTBE)	5.0
Tetrachloroethylene	0.15
Toluene	1.7
Trichloroethane (1,1,1-)	3.1
Trichloroethylene	0.54

## SECTION 4

### HAZARDOUS WASTE MANAGEMENT

Rhode Island Supplement, March 1998

This section covers the state requirements for Hazardous Waste Management and is intended to supplement the U.S. TEAM Guide. Refer to the U.S. TEAM Guide and the DOD Component Supplements for Federal, DOD, and service-specific requirements.

Rhode Island does not recognize the Federal exemptions for Conditionally Exempt Small Quantity Generators and Small Quantity Generators. All installations/CW facilities that generate hazardous waste must comply with all of the requirements in checklist section HW.10.RI. of this chapter.

#### Definitions

- *Closure Plan* - the plan prepared for closure in accordance with these rules and regulations (CRIR 12 030 003(3.00)).
- *Coastal High Hazardous Area* - the area subject to high velocity waters, including, but not limited to, hurricane wave wash or tsunamis as designated on Flood Insurance Rate Maps (FIRM) as Zone VI-30 (CRIR 12 030 003(3.00)).
- *Community Water System* - a system for the provision to the public of piped water for human consumption which serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents (CRIR 12 030 003(3.00)).
- *Container* - any portable device in which a material is stored, transported, treated, disposed of or otherwise handled (CRIR 12 030 003(3.00)).
- *Contingency Plan* - a document setting out an organized, planned and coordinated course of action to be followed in case of a fire, explosion or release of hazardous waste or hazardous waste constituents which would threaten human health or the environment (CRIR 12 030 003(3.00)).
- *Critical Habitat* - that area for an endangered species as defined in the Endangered Species Act, 16 U.S.C. 1532, as is or as amended (CRIR 12 030 003(3.00)).
- *Department* - the Department of Environmental Management (CRIR 12 030 003(3.00)).
- *Designated Facility* - a hazardous waste treatment, storage, or disposal facility that has received an EPA permit (or a facility with interim status) in accordance with 40 CFR Parts 270 and 124, a permit from a state authorized in accordance with 40 CFR Part 271, or that is regulated under 40 CFR 261.6(c)(2) or 40 CFR 266 Subpart F, as are or as amended, and that has been designated on the manifest by the generator pursuant to Rule 5.03(J) of these regulations (CRIR 12 030 003(3.00)).
- *Direct Recharge Area* - any area in which precipitation percolates to the water table and flows through subsurface materials to a specified area of discharge. The specified area of discharge may be a reach of a stream, a spring, a well or a well field (CRIR 12 030 003(3.00)).
- *Director* - the Director of the Department of Environmental Management, or his designee (CRIR 12 030 003(3.00)).

- *Discharge* - the accidental or intentional spilling, leaking, pumping, pouring, emitting, emptying, or dumping of hazardous waste into or on any land or water (CRIR 12 030 003(3.00)).
- *Disposal* - the discharge, deposit, injection, dumping, spilling, leaking, abandoning or placing of any hazardous waste in, on, into or onto any land, other surface, or building, or into any water, stormwater system or sewer system (CRIR 12 030 003(3.00)).
- *Endangerment* - the introduction of a substance into groundwater so as to cause the maximum allowable contaminant levels established in the National Primary Drinking Water Standards or the standards contained in the Public Drinking Water Regulations of the Rhode Island Department of Health to be exceeded in the groundwater; or require additional treatment of the groundwater in order not to exceed the maximum contaminant levels established in any promulgated National Primary Drinking Water Standard or the standards contained in the Public Drinking Water Regulations of the Rhode Island Department of Health (CRIR 12 030 003(3.00)).
- *Facility* - all contiguous land, structures, and other appurtenances and improvements on the land used for treating, storing or disposing of hazardous waste (CRIR 12 030 003(3.00)).
- *Fault* - a fracture along which rocks on one side have been displaced with respect to those on the other side (CRIR 12 030 003(3.00)).
- *Floodplain* - that area covered by a flood that has a 1 percent or greater chance of occurring in any year or of a magnitude equaled or exceeded once in 100 yr on the average (CRIR 12 030 003(3.00)).
- *40 CFR* - that Section or Subsection of the Code of Federal Regulations, Title 40, Protection of Environment, Chapter 1, EPA. References to the Administrator, appearing therein, are interpreted as referring to the Director (CRIR 12 030 003(3.00)).
- *49 CFR* - that Section or Subsection of the Code of Federal Regulations, Title 49, Transportation (CRIR 12 030 003(3.00)).
- *Generator* - any person, by site, who produces hazardous waste or imports hazardous waste from a foreign country or whose act or process produces hazardous waste or whose act first causes a hazardous waste to become subject to regulation (CRIR 12 030 003(3.00)).
- *Hazardous Waste Disposal Facility* - real and personal property acquired, constructed or operated for the purpose of the disposal of hazardous waste (CRIR 12 030 003(3.00)).
- *Hazardous Waste Incinerator* - an engineered device using controlled flame combustion for thermally degrading hazardous waste (CRIR 12 030 003(3.00)).
- *Hazardous Waste Management Facility* - a facility, excluding vehicles, for collection, source separation, storage, processing, treatment, recovery or disposal of hazardous wastes, or a transfer station for hazardous waste, and may include a facility at which such activities occur and where waste has been generated (CRIR 12 030 003(3.00)).
- *Hazardous Waste Transporter* - a person, individual, firm, partnership, association and private or municipal corporation that transports hazardous waste (CRIR 12 030 003(3.00)).
- *Hazardous Waste Treatment or Storage Facility* - real and personal property acquired, constructed or operated for the purpose of storing or treating hazardous wastes. Facilities which accept household hazardous waste only, pursuant to Rule 5.00 of these regulations, are not deemed to be hazardous waste treatment or storage facilities (CRIR 12 030 003(3.00)).

- *Incineration* - the treatment of hazardous waste using controlled flame combustion, the primary purpose of which is to thermally breakdown the hazardous waste (CRIR 12 030 003(3.00)).
- *Incinerator* - any enclosed device using controlled flame combustion that neither meets the criteria for classification as a boiler nor is listed as an industrial furnace (CRIR 12 030 003(3.00)).
- *Incompatible Waste* - a hazardous waste which is unsuitable for:
  1. placement in a particular device or facility because it may cause corrosion or decay of containment materials
  2. commingling with another waste or material under controlled conditions because the commingling might produce heat or pressure, fire or explosion, violent reaction, toxic dusts, mists, fumes or gases, or flammable fumes or gases (CRIR 12 030 003(3.00)).
- *Injection Well* - a well or system of wells used for the disposal of hazardous waste by pumping the waste into deep wells where they are contained in the pores of permeable subsurface rock (CRIR 12 030 003(3.00)).
- *Land Disposal Facilities* - surface impoundments, waste piles, land treatment facilities and landfills (CRIR 12 030 003(3.00)).
- *Land Treatment Facility* - a facility or part of a facility at which hazardous waste is applied onto or incorporated into the soil surface; such facilities are disposal facilities if the waste will remain after closure (CRIR 12 030 003(3.00)).
- *Landfill* - a disposal facility or part of a facility where hazardous waste is placed in or on land and which is not a land treatment facility, a surface impoundment, or an injection well (CRIR 12 030 003(3.00)).
- *Manifest* - the Rhode Island Uniform Hazardous Waste Manifest provided by the Department or any other manifest approved by the USEPA for identifying, but not limited to, the quantity, composition, type, and the origin, routing and destination of hazardous waste from the point of generation, to the point of treatment, storage, or disposal. The instructions for completing the Rhode Island Uniform Hazardous Waste Manifest are printed on the back of the form (CRIR 12 030 003(3.00)).
- *Sole Source Aquifer* - those aquifers designated pursuant to Section 1424(e) of the Safe Drinking Water Act of 1974 (Public Law 93-523) which solely or principally supply drinking water to a large percentage of a populated area (CRIR 12 030 003(3.00)).
- *Storage* - the actual or intended containment of hazardous waste either on a temporary basis or for a period of years, in such a manner as not to constitute disposal of such hazardous waste (CRIR 12 030 003(3.00)).
- *Storage Facility* - any facility that stores hazardous wastes and that has a closure plan that provides for the complete removal of all wastes (CRIR 12 030 003(3.00)).
- *Surface Impoundment* - a facility or part of a facility which is a natural topographic depression, man made excavation, or diked area formed primarily of earthen materials (although it may be lined with manmade materials), which is designed to hold an accumulation of liquid wastes or waste containing free liquids, and which is not an injection well. Examples of surface impoundments are holding, storage, settling, and aeration pits, ponds, and lagoons (CRIR 12 030 003(3.00)).
- *Transfer Station* - an intermediate point in the transport of hazardous wastes where such wastes are brought, stored and transferred to vehicles for movement to other intermediate points or to the point of ultimate storage or disposal (CRIR 12 030 003(3.00)).
- *Transport* - the movement of wastes from the point of generation to any offsite intermediate points, and finally to the point of final storage, treatment or disposal (CRIR 12 030 003(3.00)).

- *Transporter* - ~~any~~ person who transports hazardous waste other than onsite (CRIR 12 030 003(3.00)).
- *Treatment* - any method, technique, or process, including neutralization or incineration, designed to change the physical, chemical, or biological character or composition of any hazardous waste as to neutralize such waste or as to render such waste less hazardous, nonhazardous, safer to transport, amenable to storage, or reduced in volume, except such method or technique as may be included as part of the manufacturing process at the point of generation (CRIR 12 030 003(3.00)).
- *Underground Drinking Water Source* - an aquifer supplying drinking water for human consumption; or an aquifer in which the groundwater contains less than 500 mg/L total dissolved solids; or an aquifer designated as such by the Administrator of the EPA or any Rhode Island state agency authorized to do so (CRIR 12 030 003(3.00)).
- *Waste Pile* - any noncontainerized accumulation of solid, nonflowing hazardous waste that is used for treatment or storage (CRIR 12 030 003(3.00)).
- *Wetlands* - marshes, swamps, bogs, ponds, rivers, river and stream floodplains and banks; areas subject flooding or storm flowage, emergent, and submergent plant communities in any body of freshwater including rivers and streams and that area of land within 50 ft of the edge of any bog, marsh, swamp, or pond (CRIR 12 030 003(3.00)).

**HAZARDOUS WASTE MANAGEMENT  
GUIDANCE FOR RHODE ISLAND CHECKLIST USERS**

**REFER TO CHECKLIST ITEMS:**

All Sizes of Generators	HW.10.1.RI. through HW.10.8.RI.
Conditionally Exempt Small Quantity Generators (CESQG)	
(NOTE: Rhode Island does not recognize the Federal exemptions for conditionally exempt small quantity generators; see HW.10, All Sizes of Generators.)	
Small Quantity Generators (SQG)	
(NOTE: Rhode Island does not recognize the Federal exemptions for Small Quantity Generators; see HW.10, All Sizes of Generators.)	
Transfer Facilities	HW.95.1.RI.
Transportation	HW.100.1.RI. through HW.100.8.RI.
All TSDFs	
General	HW.105.1.RI. through HW.105.3.RI.
Additional Requirements for Permitted TSDFs	
Hazardous Waste Landfills	HW.200.1.RI. and HW.200.2.RI.

**GUIDANCE FOR APPENDIX USERS**

**REFER TO APPENDIX NUMBERS:**

**REFER TO APPENDIX TITLES:**

4-1  
4-2

Rhode Island Hazardous Wastes  
Roads Upon Which Transport of Extremely  
Hazardous Waste Is Prohibited



<b>COMPLIANCE CATEGORY:</b> <b>HAZARDOUS WASTE MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<b>HW.10.</b> <b>ALL SIZES OF GENERATORS</b>	<p>(NOTE: Rhode Island does not recognize the Federal exemptions for conditionally-exempt small quantity generators found at 40 CFR 261.5, or for small quantity generators found at 40 CFR 262.34(d) through (f).)</p>
<b>HW.10.1.RI.</b> Hazardous waste generators must obtain generator identification numbers (CRIR 12 030 003(5.01)) [Revised March 1998].	<p>Verify that all generators apply for and obtain an EPA identification number, and do not offer waste for shipment without such a number.</p> <p>(NOTE: Conditionally-exempt small quantity generators and others not included in the Federal system but covered under Rhode Island rules and regulations must apply for an EPA identification number through the Department. Generators covered by the Federal system must apply directly to the Regional Office of the Environmental Protection Agency. Temporary EPA identification numbers may be obtained from the Department.)</p> <p>(NOTE: Facilities which accept household hazardous waste only, for subsequent offsite management in accordance with these regulations, will be considered generators, subject to the requirements of this section.)</p>
<b>HW.10.2.RI.</b> Hazardous waste generators must meet requirements for 90 day accumulation (CRIR 12 030 003(5.02)) [Added March 1998].	<p>(NOTE: Rhode Island requires that "[A]ny material designated as a hazardous waste stored on site by a generator for a period not to exceed 90 days [is] temporary storage and excluded from storage permit requirements provided that [it] is managed in accordance with the provisions of 40 CFR 262.34 and 264.175, as are or as amended, except for 40 CFR 262.34(d), (e), and (f)." These requirements are listed below, along with the appropriate checklist item numbers from the U.S. TEAM Guide.)</p> <p>Verify that all generators comply with the requirements for secondary requirement for hazardous waste container storage areas at TSDFs (see HW.180.3 and HW.180.4 in the U.S. TEAM Guide).</p> <p>Verify that all generators comply with the Federal requirements for accumulation time limits for large-quantity generators (see HW.55.1 in the U.S. TEAM Guide).</p> <p>Verify that all generators comply with the Federal requirements for container storage area design and operation for large-quantity generators (see HW.55.7 in the U.S. TEAM Guide).</p> <p>Verify that all generators comply with the Federal requirements for personnel training for large-quantity generators (see HW.60.1 and HW.60.2 in the U.S. TEAM Guide).</p> <p>Verify that all generators comply with the Federal requirements for contingency</p>

<b>COMPLIANCE CATEGORY:</b> <b>HAZARDOUS WASTE MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<p><b>HW.10.3.RI.</b> Generators must meet state-specific manifesting requirements (CRIR 12 030 003(5.03 and 5.09)).</p>	<p>planning and emergency personnel for large-quantity generators (see HW.65.1 through HW.65.4 in the U.S. TEAM Guide).</p> <p>Verify that all generators comply with the Federal requirements for containers for large-quantity generators (see HW.70.2 through HW.70.5, and HW.70.7 through HW.70.12 in the U.S. TEAM Guide).</p> <p>Verify that all generators comply with the Federal requirements for emissions from process vents and equipment leaks for large-quantity generators (see sections HW.71 and HW.72 in the U.S. TEAM Guide).</p> <p>Verify that all generators comply with the Federal requirements for satellite accumulation points for large-quantity generators (see HW.75.1 in the U.S. TEAM Guide).</p> <p>Verify that all generators comply with the Federal requirements for container storage areas for large-quantity generators (see HW.80.1 through HW.80.4 in the U.S. TEAM Guide).</p> <p>Verify that all generators comply with the Federal requirements for containment buildings for large-quantity generators (see section HW.85 in the U.S. TEAM Guide).</p> <p>Verify that the generator does not send hazardous waste off site without completing a manifest.</p> <p>Verify that the generator sends waste only to a designated TSDF.</p> <p>Verify that the generator completes the generator section of a Rhode Island Uniform Hazardous Waste Manifest or another manifest prior to shipment.</p> <p>Verify that the generator uses the destination state's manifest if that state supplies the manifest and requires its use (or, if not, that the generator uses the Rhode Island manifest).</p> <p>Verify that, in the event the generator uses other than a Rhode Island manifest, the generator includes all of the information required on the Rhode Island manifest.</p> <p>Verify that the generator notes on the manifest if the waste is an R006 waste (see Appendix 4-1).</p> <p>Verify that, after the transporter has signed the manifest, the generator removes the appropriate copy and returns it to the Department within 5 days.</p> <p>Verify that the generator removes the destination state's copy and mails it, within 5 days, to the state in which the designated TSDF is located.</p>

**COMPLIANCE CATEGORY:  
HAZARDOUS WASTE MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>HW.10.4.RI.</b> Generators must meet state-specific manifesting requirements (CRIR 12 030 003(5.04)) [Added March 1998].</p> <p><b>HW.10.5.RI.</b> Generators must determine if their wastes are hazardous (CRIR 12 030 003(5.08)) [Revised March 1998].</p> <p><b>HW.10.6.RI.</b> Generators</p>	<p>Verify that the generator maintains a copy of the manifest for its records.</p> <p>Verify that the generator turns over all remaining copies to the transporter and that they accompany the waste through the routing indicated by the generator.</p> <p>Verify that the generator instructs the transporter to return the waste or deliver it to an alternate designated TSDF if unable to deliver it to the primary designated TSDF.</p> <p>Verify that the generator designates on the manifest the following:</p> <ul style="list-style-type: none"> <li>- one designated TSDF which is permitted to handle the waste described on the manifest</li> <li>- one alternate designated TSDF which is permitted to handle the waste in the event an emergency prevents delivery of the waste to the primary designated TSDF.</li> </ul> <p>Verify that generator submits to the Department the names and signatures of all agents of the generator authorized to sign the manifest.</p> <p>Verify that the generator labels the side of all hazardous waste containers used in to transport the waste off site in accordance with the provisions of 49 CFR 172, as is or as amended, and includes the following:</p> <ul style="list-style-type: none"> <li>- generator's name and address of generating facility</li> <li>- the generic names of the principal hazardous waste components (if the proper DOT Shipping Name is not descriptive)</li> <li>- the waste code</li> <li>- date of containerization</li> <li>- the Hazardous Waste Manifest Number.</li> </ul> <p>Verify that the generator labels and marks every container in accordance with the provisions of 40 CFR 262.32 and 40 CFR 262.33, as is or as amended (see HW.100.2 in the U.S. TEAM Guide).</p> <p>Verify that generators determine if their wastes are Rhode Island state-specific hazardous wastes, as defined by Rule 3.53 (see Appendix 4-1).</p> <p>Verify that the generator, in the event of an actual or threatened spill or release of</p>

**COMPLIANCE CATEGORY:  
HAZARDOUS WASTE MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p>must comply with certain procedures in the event of a spill or a release of hazardous waste (CRIR 12 030 003(5.10)).</p> <p><b>HW.10.7.RI.</b> All generators must submit biennial reports (CRIR 12 030 003(5.05)).</p> <p><b>HW.10.8.RI.</b> Generators must meet state-specific recordkeeping requirements (CRIR 12 030 003(5.06)) [Added March 1998].</p>	<p>hazardous waste, notifies the Division of Air and Hazardous Materials immediately.</p> <p>Verify that the generator provides all requested information in the event of a spill or release.</p> <p>Verify that the generator immediately takes steps to prevent, contain, and/or cleanup the spill or release of hazardous waste or material.</p> <p>(NOTE: In the U.S. TEAM Guide, this is only required for Large Quantity Generators, whereas in Rhode Island this requirement applies to all generators.)</p> <p>Verify that all generators prepare and submit a biennial report in accordance with the provisions of 40 CFR 262.41, as is or as amended (see HW.55.4 in the TEAM Guide).</p> <p>(NOTE: The generator may also be required to submit additional reports at the request of the Director.)</p> <p>Verify that the generator keeps all pertinent records relating to the generation of hazardous waste for a period of three years, or for such longer periods as is required in an unresolved enforcement action.</p> <p>Verify that these records include, at a minimum:</p> <ul style="list-style-type: none"> <li>- copies 3 and 8 of each manifest</li> <li>- receipts for waste automotive oil shipments</li> <li>- a copy of each biennial report</li> <li>- a copy of each waste analysis</li> <li>- a copy of any tests and other determinations made regarding the content of the waste.</li> </ul>

**COMPLIANCE CATEGORY:  
HAZARDOUS WASTE MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>HW.95. TRANSFER FACILITIES</b></p> <p><b>HW.95.1.RI.</b> Temporary hazardous waste storage or transfer areas must have a Letter of Authorization (CRIR 12 030 003(6.14)) [Revised March 1998].</p>	<p>Verify that temporary storage in the transporting vehicle for up to 72 hr, excluding Sundays, as well as transfer operations, is only allowed in locations included on the transporter's permit application and at those locations which have been issued a Hazardous Waste Transporter's Temporary Storage and/or Transfer Area Letter of Authorization.</p> <p>Verify that the transporter operates in accordance with any terms or conditions included in the letter.</p> <p>(NOTE: Temporary storage in the transporting vehicle at the location of a breakdown of the vehicle will only be allowed if the transporter notifies the Department of the location of the vehicle and the estimated time for repairs.)</p> <p>Verify that all storage and transfer areas have secondary containment which meet the requirements of 40 CFR 265.193(e)(1), including, at a minimum:</p> <ul style="list-style-type: none"> <li>- design or operation to contain 100 percent of the capacity of the largest container within its boundary</li> <li>- design or operation to prevent run-on or infiltration, unless the collections system has sufficient excess capacity to contain precipitation from a 25-yr, 24-h rainfall event</li> <li>- freedom from cracks or gaps.</li> </ul> <p>(NOTE: 40 CFR 265.193(e) refers to standards for storage of hazardous waste in tanks, and requires that secondary containment systems satisfy the following requirements:</p> <ul style="list-style-type: none"> <li>- external liner systems are: <ul style="list-style-type: none"> <li>- designed or operated to contain 100 percent of the capacity of the largest tank within its boundary</li> <li>- designed or operated to prevent run-on or infiltration of precipitation into the secondary containment system unless the collection system has sufficient excess capacity to contain run-on or infiltration (such additional capacity must be sufficient excess capacity to contain precipitation from a 25-yr, 24-h rainfall event)</li> <li>- free of cracks or gaps</li> <li>- designed and installed to completely surround the tank and to cover all surrounding earth likely to come into contact with the waste if released from the tank(s)(i.e., capable of preventing lateral as well as vertical migration of the waste)</li> </ul> </li> <li>- vault systems are: <ul style="list-style-type: none"> <li>- designed or operated to contain 100 percent of the capacity of the largest tank within its boundary</li> </ul> </li> </ul>

**COMPLIANCE CATEGORY:  
HAZARDOUS WASTE MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
	<ul style="list-style-type: none"> <li>- designed or operated to prevent run-on or infiltration or precipitation into the secondary containment system unless the collection system has sufficient to contain run-on or infiltration (such additional capacity must be sufficient to contain precipitation from a 25-yr, 24-h rainfall event)</li> <li>- constructed with chemical-resistant water stops in place at all joints (if any)</li> <li>- provided with an impermeable interior coating or lining that is compatible with the stored waste and that will prevent migration of waste into the concrete</li> <li>- provided with a means to protect against the formation of and ignition of vapors within the vault, if the waste being stored or treated meets the definition of ignitable waste, or of reactive waste and may form an ignitable or explosive vapor</li> <li>- provided with an exterior moisture barrier or be otherwise designed or operated to prevent migration of moisture into the vault if the vault is subject to hydraulic pressure.</li> <li>- double-walled tanks are:             <ul style="list-style-type: none"> <li>- designed as an integral structure (i.e., an inner tank within an outer shell) so that any release from the inner tank is contained by the outer shell</li> <li>- protected, if constructed of metal, from both corrosion of the primary tank interior and the external surface of the outer shell</li> <li>- provided with a built-in, continuous leak detection system capable of detecting a release within 24 h or at the earliest practicable time, if the owner or operator can demonstrate to the Regional Administrator, and the Regional Administrator concurs, that the existing leak detection technology or site conditions will not allow detection of a release within 24 h.)</li> </ul> </li> </ul>

**COMPLIANCE CATEGORY:  
HAZARDOUS WASTE MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>HW.100. TRANSPORTATION OF HAZARDOUS WASTE</b></p> <p><b>HW.100.1.RI.</b> Hazardous waste transporters must obtain a permit (CRIR 12 030 003 6.01)).</p> <p><b>HW.100.2.RI.</b> Transporters of hazardous wastes must comply with certain operating restrictions (CRIR 012 030 003(6.03.B through E)).</p>	<p>Verify that the transporter obtains a Hazardous Waste Transporter Permit from the Director.</p> <p>(NOTE: This rule does not apply in the case of the use of nonpermitted vehicles to collect and transport hazardous waste in emergency situations which present a threat to public health and safety.)</p> <p>(NOTE: This rule does not apply to the transportation of sewage sludge, except where the sludge fails EPA's characteristics for hazardous waste as defined in Subpart C of 40 CFR 261, as is or as amended, and is produced at publicly owned treatment works.)</p> <p>Verify that, in the event of an emergency situation, the transporter notifies the Department of each vehicle used for the cleanup and transportation of hazardous waste.</p> <p>Verify that transporters do not transport extremely hazardous wastes on certain roads (as shown in Appendix 4-2.)</p> <p>Verify that the list of roads on which the transportation of extremely hazardous waste is prohibited (as listed in Appendix 4-2) is posted conspicuously in the cab of each vehicle registered to the transporter (see Appendix 4-1 for a list of extremely hazardous wastes).</p> <p>(NOTE: Extremely hazardous waste that is generated on roads on which the transportation of extremely hazardous waste is prohibited may be transported on those roads with prior permission of the Director.)</p> <p>Verify that, in the event of a spill of hazardous waste by the transporter, the transporter notifies the Department immediately of the spill.</p> <p>Verify that, in all cases of spills, the transporter immediately takes steps to contain and cleanup the hazardous waste.</p> <p>Verify that transporting vehicles are marked on both sides and the back with the name and permit number of the transporter and also that:</p> <ul style="list-style-type: none"> <li>- these markings are painted on the vehicle in permanent contrasting colors and are visible and legible from a distance of 50 ft</li> </ul>

**COMPLIANCE CATEGORY:**  
**HAZARDOUS WASTE MANAGEMENT**  
Rhode Island Supplement

REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 1998
<p><b>HW.100.3.RI.</b> Transporters must comply with manifest procedures (CRIR 12 030 003(6.04 and 6.05)).</p>	<ul style="list-style-type: none"> <li>- the official hazardous waste transporter sticker provided by the Department is kept clean and legible.</li> </ul> <p>Verify that the transporter transporting hazardous waste does not accept any hazardous waste unless the generator section of the manifest has been completed by the generator.</p> <p>Verify that the transporter transporting hazardous waste inspects the waste before accepting it to ensure that:</p> <ul style="list-style-type: none"> <li>- the number of containers match the number indicated in the generator section of the manifest</li> <li>- all containers are properly labeled</li> <li>- the total quantity of waste, as can be best estimated, matches the quantity indicated in the generator section of the manifest</li> <li>- all containers appear sound and liquid tight.</li> </ul> <p>Verify that the transporter completes the transporter's section of the manifest, signs the manifest, and leaves the appropriate manifest copies with the generator.</p> <p>Verify that the transporter keeps the completed manifest, minus the copies left with the generator, with the hazardous waste until received by the consignee.</p> <p>Verify that the transporter, upon receipt of the hazardous waste by the consignee, removes the transporter copy for his records and turns over the remaining copies to the consignee.</p> <p>Verify that copy five of the manifest is kept by the transporter for a period of 3 yr from the date of the receipt of that waste.</p> <p>Verify that the transporter submits to the Director the names and signatures of all company personnel who are allowed to sign manifests.</p> <p>Verify that the transporter delivers the hazardous waste only to the TSDF designated on the manifest.</p> <p>Verify that, if it is not possible to deliver the hazardous waste to the TSDF designated on the manifest, that the transporter contacts the generator for further instructions and revises the manifest in accordance with the generator's instructions.</p> <p>Verify that the transporter obtains the date and signature of the TSDF operator at the time of transfer of the waste to the TSDF.</p> <p>Verify that the transporter keeps all pertinent records relating to the transportation of hazardous waste for a period of 3 yr after the waste has been delivered to a</p>

**COMPLIANCE CATEGORY:  
HAZARDOUS WASTE MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>HW.100.4.RI.</b> Transporters must not accept unlabeled hazardous wastes (CRIR 012 030 003(6.03.G)).</p> <p><b>HW.100.5.RI.</b> Transporters of hazardous wastes must have adequate personnel and the proper equipment (CRIR 12 030 003(6.06)).</p> <p><b>HW.100.6.RI.</b> Transporters of hazardous wastes must safety and accident response requirements (CRIR 12 030 003(6.08 and 6.13)).</p>	<p>designated TSDF, or for such longer periods as is required in an unresolved enforcement action.</p> <p>Verify that the transporter does not accept any hazardous wastes for delivery to a TSDF in Rhode Island unless the hazardous waste containers are labeled in compliance with Federal DOT requirements.</p> <p>Verify that the transporter transporting hazardous waste provides adequate personnel to ensure the activities conducted are in compliance with all applicable laws and regulations.</p> <p>Verify that the transporter makes provisions to prevent personnel from wearing clothing that is contaminated with hazardous waste.</p> <p>Verify that the transporter has all equipment necessary for transporting the hazardous waste in accordance with these rules.</p> <p>Verify that all equipment is maintained in a manner fit for the purposes for which it was intended by the manufacturer.</p> <p>Verify that transporters are equipped with safety equipment to minimize the chance of fire and explosion and to protect the health and safety of any person who might come into contact with the waste.</p> <p>Verify that the transporter has safety equipment available for use during spills, fires, and other emergencies, including a suitable means of communication for summoning aid in an emergency.</p> <p>Verify that the transporter maintains, at a minimum, the following safety equipment:</p> <ul style="list-style-type: none"> <li>- protective clothing and equipment to enable personnel associated with the transportation to work safely with the hazardous wastes that are accepted by the transporter</li> <li>- one eyewash apparatus (at least 1 pt) per vehicle which is readily available in case of emergency</li> <li>- first-aid supplies which are readily available in case of emergency.</li> </ul> <p>Verify that the transporter makes provisions for prompt control of fires, spills, and other emergencies.</p>

<b>COMPLIANCE CATEGORY:</b> <b>HAZARDOUS WASTE MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
	<p>Verify that the transporter takes the following emergency preparedness actions:</p> <ul style="list-style-type: none"> <li>- prepares procedures for personnel to follow in the case of spills of hazardous waste and in the case of fire and other emergencies</li> <li>- posts these procedures in a conspicuous place</li> <li>- trains and instructs personnel associated with the transportation of hazardous waste in these procedures</li> <li>- maintains records of the training and instruction programs that are held.</li> </ul> <p>Verify that the transporter has the following spill control equipment:</p> <ul style="list-style-type: none"> <li>- absorbent mats or materials on the vehicles capable of absorbing 10 percent of the hazardous wastes in the event of a leak or spill, when transporting liquid hazardous waste in containers</li> <li>- a shovel and absorbent mats or materials on the vehicle capable of absorbing such small leaks as may occur when hoses are disconnected, when transporting liquid hazardous waste in tank trucks.</li> </ul> <p>Verify that the transporter collects hazardous waste that is accidentally discharged from a designated hazardous waste vehicle and also:</p> <ul style="list-style-type: none"> <li>- collects soil contaminated by such discharge as rapidly and thoroughly as possible</li> <li>- handles and disposes of such waste and soil as hazardous wastes in compliance with these rules and regulations.</li> </ul> <p>Verify that the transporter immediately reports all accidental discharges/spills of hazardous wastes, and any other incident or accident which could result in a hazard to public health and safety or to the environment, to the Rhode Island Department of Environmental Management.</p>
<p><b>HW.100.7.RI.</b> Transporters of hazardous wastes must comply with decontamination procedures (CRIR 12 030 003(6.09)).</p>	<p>Verify that equipment used to handle hazardous waste (including, but not limited to, storage containers, processing equipment, trucks, and loaders), are decontaminated prior to being serviced or used for transportation of nonhazardous waste, if servicing or use of contaminated equipment would cause a hazard to any person.</p> <p>Verify that contaminated washwater, waste solutions, or residues generated from washing or decontaminating the equipment are collected and disposed of as hazardous wastes.</p>
<p><b>HW.100.8.RI.</b> Transporters of hazardous wastes must comply with procedures for</p>	<p>Verify that transporters handling hazardous waste in the form of powder, dust, or a fine solid use covered containers to prevent hazardous waste from being blown</p>

<b>COMPLIANCE CATEGORY:</b> <b>HAZARDOUS WASTE MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
handling hazardous wastes (CRIR 12 030 003(6.11, and 6.12)) [Revised March 1998].	by the wind.  Verify that transporters use covered containers to handle hazardous wastes that are capable of releasing hazardous gases, mists or vapors in excess of existing air quality standards, or where the emitted hazardous materials result in a hazard to public health and safety or the environment.



<b>COMPLIANCE CATEGORY:</b> <b>HAZARDOUS WASTE MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<b>ALL TSDFs</b>  <b>HW.105. General</b>  <b>HW.105.1.RI.</b> TSDFs must comply with certain prohibitions for hazardous waste disposal (CRIR 12 030 003(7.01.F)).  <b>HW.105.2.RI.</b> TSDFs must be permitted (CRIR 12 030 003(7.01.A and 7.04)).  <b>HW.105.3.RI.</b> TSDFs must comply with manifest procedures (CRIR 12 030 003(9.10 and 9.15)).	<p>Verify that hazardous waste is not disposed of by ocean disposal.</p> <p>Verify that hazardous waste is not disposed of by underground injection control.</p> <p>Verify that the TSDF obtains an operating permit or approval from the Director.</p> <p>Verify that the TSDF complies with the terms and conditions of the permit.</p> <p>Verify that the permit is kept at the TSDF, and kept legible.</p> <p>(NOTE: This checklist item was moved here from HW.180.1.RI., March 1998.)</p> <p>Verify that the TSDF does not accept any waste without a completed Rhode Island Uniform Hazardous Waste Manifest, or other New England state manifest.</p> <p>Verify that the TSDF reports to the Director the attempted delivery of all unmanifested waste.</p> <p>Verify that, after signing the manifest, the TSDF retains a copy for its records and mails the remaining copies as follows within 5 days of receipt, or sooner if required by another state:</p> <ul style="list-style-type: none"> <li>- a copy to the Department</li> <li>- a copy to the state where the waste was generated</li> <li>- a copy to the generator.</li> </ul> <p>Verify that TSDF submits to the Department the names and signatures of all agents authorized to sign the manifest.</p> <p>(NOTE: This checklist item was moved here from HW.180.4.RI., March 1998.)</p>



**COMPLIANCE CATEGORY:  
HAZARDOUS WASTE MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>ADDITIONAL REQUIREMENTS FOR PERMITTED TSDFs</b></p> <p><b>HW.200. Hazardous Waste Landfills</b></p> <p><b>HW.200.1.RI.</b> The construction of hazardous waste landfills is required to follow certain standards (CRIR 12 030 003(10.01) (E)) [Revised March 1998].</p>	<p>(NOTE: Landfills are designated as Class I, Class II, Class IIIA, or Class IIIB.)</p> <p>Verify that all hazardous waste landfills are designed and constructed to meet the following minimum requirements:</p> <ul style="list-style-type: none"> <li>- there is a minimum distance of 500 ft between any active portion of the TSDF and any surface body of water and any wetland</li> <li>- the bottom liners are installed with a minimum slope of 2 percent and lead to collection sumps at all low points</li> <li>- the boundaries of all active portions are at least 500 ft from any private water supply or livestock water supply</li> <li>- erosion, landslides, and slumping are minimized</li> <li>- separate cells are provided for incompatible wastes</li> <li>- gas collection and venting systems prevent the lateral movement of gases generated within the landfill and prevent the accumulation of these gases with confined structures on or adjacent to the landfill area.</li> </ul> <p>Verify that Class I Landfills are located only in "till" areas as identified on the groundwater maps prepared by the U.S. Geological Survey and include in the design the following:</p> <ul style="list-style-type: none"> <li>- a two-liner system installed on the bottom and all sides of any disposal area consisting of two membrane liners</li> <li>- a leachate monitoring, collection, and removal system installed above the top liner which consists of soils at least 3 ft thick and which allows leachate to move rapidly through the soils and collect in sumps</li> <li>- a minimum of 6 in. of sand immediately overlaying and under the membrane liner</li> <li>- membrane liners which meet the following requirements: <ul style="list-style-type: none"> <li>- adequate strength and thickness to ensure mechanical integrity and have a minimum thickness of 30 mil</li> <li>- resistance to attack from soil bacteria and fungi</li> <li>- ample weather resistance to withstand the stress of extreme heat, freezing, and thawing</li> <li>- adequate tensile strength to elongate sufficiently and withstand the stress of installation and/or use of machinery and equipment</li> <li>- uniform thickness, free from thin spots, cracks, tears, blisters and</li> </ul> </li> </ul>

**COMPLIANCE CATEGORY:  
HAZARDOUS WASTE MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>HW.200.2.RI.</b> Hazardous waste landfills must meet restrictions on wastes accepted (CRIR 12 030 003(10.01) (G, H, and I)) [Added March 1998].</p>	<ul style="list-style-type: none"> <li>foreign particles</li> <li>- placement on a stable base</li> <li>- permeability less than or equal to <math>1 \times 10^{-12}</math> cm/s or its equivalent</li> <li>- seamed in a manner which does not adversely affect any property of the membrane.</li> </ul> <p>Verify that Class II Landfills are located in either "till" areas or "outwash" areas as identified on the groundwater maps prepared by the U.S. Geological Survey and are of the same design as Class I Landfills.</p> <p>Verify that Class III Landfills are located in either "till" areas or "outwash" areas as identified on the groundwater maps prepared by the U.S. Geological Survey.</p> <p>Verify that Class I Landfills do not accept:</p> <ul style="list-style-type: none"> <li>- Type 6--Extremely Hazardous Waste</li> <li>- Type 2A--Highly Reactive Waste, or</li> <li>- Type 3A--Highly Flammable Waste.</li> </ul> <p>Verify that Class II Landfills do not accept:</p> <ul style="list-style-type: none"> <li>- Type 6--Extremely Hazardous Waste</li> <li>- Type 1A--Highly Toxic Waste</li> <li>- Type 2A--Highly Reactive Waste</li> <li>- Type 2B--Moderately Reactive Waste</li> <li>- Type 3A--Highly Flammable Waste</li> <li>- Type 3B--Moderately Flammable Waste, or</li> <li>- Type 5--RI Special Waste.</li> </ul> <p>Verify that Class III Landfills do not accept:</p> <ul style="list-style-type: none"> <li>- Type 6--Extremely Hazardous Waste</li> <li>- Type 1A--Highly Toxic Waste</li> <li>- Type 1B--Moderately Toxic Waste</li> <li>- Type 2A--Highly Reactive Waste</li> <li>- Type 2B--Moderately Reactive Waste</li> <li>- Type 3A--Highly Flammable Waste</li> <li>- Type 3B--Moderately Flammable Waste, or</li> <li>- Type 5--RI Special Waste.</li> </ul>

## Appendix 4-1

### Rhode Island Hazardous Wastes (Source: CRIR 12 030 003(3.53))

(NOTE: The lettering and numbering system in the CRIR is retained in order to facilitate cross-citations.)

3.53 Rhode Island Wastes shall mean any waste meeting any of the below-listed definitions. These waste codes are in addition to the Federal definitions of hazardous waste referenced in Rule 3.25 of these regulations, and they are to be used only when the waste does not meet any of the Federal criteria, except for purposes of determining if the waste is prohibited from being transported on the roads listed in Rule 6.03 of these regulations.

(NOTE: The waste codes indicated in the parentheses are only to be used when the waste does not meet any of the Federal definitions of a hazardous waste.)

A. Type 1A--Highly Toxic Waste (R001) shall mean a waste which meets any of the following criteria:

1. The elutriate obtained by applying the Toxicant Extraction Procedure to a representative sample of the waste has an acute oral LD<sub>50</sub> in the rat of 0 to 50 mg/kg of body weight determined according to the protocol in Appendix 1, as calculated using a recognized reference or, where a recognized reference is not available, as actually measured.
2. A quantitative analysis of a liquid waste reveals that it contains a substance which in the concentration present in the waste causes the waste to have a waste LD<sub>50</sub> (calculated) of 50 mg/kg or less, as listed in a reference source approved by the Director.

B. Type 1B--Moderately Toxic Waste (R001) shall mean a waste which meets any of the following criteria:

1. The elutriate obtained by applying the Toxicant Extraction Procedure to a representative sample of the waste has an acute oral LD<sub>50</sub> in the rat of greater than 50 but less than 500 mg/kg of body weight determined according to the protocol in Appendix 1, as calculated using a recognized reference or, where a recognized reference is not available, as actually measured.
2. A quantitative analysis of a liquid waste reveals that it contains a substance which in the concentration present in the waste causes the waste to have a waste LD<sub>50</sub> (calculated) of greater than 50 mg/kg but less than 500 mg/kg of body weight as listed in a reference source approved by the Director.

C. Type 1C--Slightly Toxic Waste (R001) shall mean a waste which meets any of the following criteria:

1. The elutriate obtained by applying the Toxicant Extraction Procedure to a representative sample of the waste has an acute oral LD<sub>50</sub> in the rat of greater than 500 but less than 5000 mg/kg of body weight determined according to the protocol in Appendix 1, as calculated using a recognized reference or, where a recognized reference is not available, as actually measured.
2. A quantitative analysis of a liquid waste reveals that it contains a substance which in the concentration present in the waste causes the waste to have a waste LD<sub>50</sub> (calculated) of greater than 500 but less than 5000 mg/kg body weight as listed in a reference source approved by the Director.

D. Type 2A--Highly Reactive Waste (R002) shall mean a waste which in itself is readily capable of initiating a detonation, or of explosive decomposition, or of a reaction at normal temperature and pressures, or which reacts explosively with water, or which is a forbidden explosive as defined in 49 CFR 173.51, or a Class A or Class B explosive as defined in 49 CFR 173.53 or 49 CFR 173.88, respectively, as are or as amended.

E. Type 2B--Moderately Reactive Waste (R002) shall mean a waste which in itself is capable of initiating a detonation or explosive reaction, but requires a strong initiating source, or which must be heated under confinement before initiation, or which may react violently with water or oxidizable materials or which may form potentially explosive mixtures with water or oxidizable materials, or which may generate toxic fumes such as cyanide and sulfide-bearing wastes.

F. Type 2C--Slightly Reactive Waste (R002) shall mean a waste which in itself or when mixed with water is normally unstable or readily undergoes chemical change, but does not detonate or cause explosive reactions.

G. Type 3A--Highly Flammable Waste (R003) shall mean:

1. Any liquid or gaseous material which is a liquid while under pressure, having a flash point below 73 °F and a boiling point less than 100 °F.
2. Any compressed gas or mixture for which a mixture of 13 percent or less (by volume) with air forms a flammable mixture, or the flammable range with air is wider than 12 percent regardless of the lower limit.
3. Any nonliquid as described in 40 CFR 261.21(a)(2), as is or as amended.
4. Any ignitable compressed gas as described in 40 CFR 261.21(a)(3), as is or as amended.
5. Any oxidizer as described in 40 CFR 261.21(a)(4), as is or as amended.

H. Type 3B--Moderately Flammable Waste (R003) shall mean:

1. A liquid having a flash point less than 73 °F and a boiling point at or above 100 °F, and those having a flash point at or above 73 °F and a boiling point less than 100 °F, or a liquid that ignites spontaneously in dry or moist air at or below 130 °F.
2. Any compressed flammable gas or mixture having in the container an absolute pressure exceeding 40 psi at 70 °F, or, regardless of the pressure at 70 °F, having an absolute pressure exceeding 104 psi at 130 °F, or any liquid flammable materials having a vapor pressure exceeding 40 psi absolute at 100 °F.

I. Type 3C--Slightly Flammable Waste (R003) shall mean:

1. Liquids having a flash point at or above 73 °F, but not exceeding 200 °F.
2. Solids and semisolids which readily give off flammable vapors below 100 °F.

J. Type 4--Corrosive Waste (R004) shall mean any nonaqueous waste, when mixed 50 percent by weight with distilled water, or any gaseous material such that a 2 molar aqueous solution, yields a pH less than or equal to 2.0, or greater than or equal to 12.5, as measured with a pH meter using the protocol specified in EPA's Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods, SW-846, as is or as amended.

K. Type 5--Rhode Island Special Hazardous Waste (R005) shall mean a waste which may not meet any of the other criteria set forth in this rule but which may still cause or significantly contribute to an increase in mortality or an increase in serious irreversible or incapacitating reversible illness or pose a substantial present or potential hazard to human health or the environment.

L. Type 6--Extremely Hazardous Waste (R006) shall mean any waste that:

1. contains any KNOWN CARCINOGEN as designated in regulatory rule-making by any of the Federal agencies (OSHA, FDA, EPA, or CPSC) in concentrations or amounts at or above the Federally regulated level or at 1/10 of 1 percent (0.1 percent) by weight, whichever is more stringent, of any solid or liquid mixture (this rule does not apply to asbestos waste)
2. contains any TERATOGEN as identified by OSHA's Industrial Hygiene Field Operation Manual (CPL 2-2.20, 2 April 1979, or subsequent updates) in concentrations or amounts at or above the Federally regulated level or at 0.1 percent by weight, whichever is more stringent, of any solid or liquid mixture
3. contains any SUSPECT HUMAN CARCINOGEN as designated in regulatory rule-making by any of the Federal agencies (OSHA, FDA, EPA or CPSC) in concentrations or amounts at or above the Federally regulated level or at 1 percent by weight, whichever is more stringent, of any solid or liquid mixture. This rule does not apply to asbestos waste
4. contains a substance which has an acute oral rat LD<sub>50</sub> less than or equal to 2 mg/kg in a reference approved by the Director at or above 0.1 percent by weight of any solid or liquid mixture
5. contains any USDOT Poison A or B except carboic acid at or above 1 percent by weight of any solid or liquid mixture
6. contains industrial chemicals selected due to their serious cumulative effects from the OSHA's Industrial Hygiene Field Operations Manual (CPL 2-2.20, 2 April 1979) and listed in Appendix II at or above 1

percent by weight of any solid or liquid mixture. However, if the industrial chemicals are less than 1 percent soluble, this rule only applies to these chemicals when they are soluble in the waste.

M. Rhode Island Waste Codes shall be as follows:

1. Any waste meeting any of the definitions of toxic waste under items A, B, or C of this rule shall be designated as an R001 waste.
2. Any waste meeting any of the definitions of reactive waste under items D, E, or F of this rule shall be designated as an R002 waste.
3. Any waste meeting any of the definitions of flammable waste under items G, H, or I of this rule shall be designated as an R003 waste.
4. Any waste meeting the definition of corrosive waste under item J of this rule shall be designated as an R004 waste.
5. Any waste meeting the definition of Rhode Island special waste under item K of this rule shall be designated as an R005 waste.
6. Any waste meeting the definition of extremely hazardous waste under item L of this rule shall be designated as an R006 waste, except as described in item 7, below.
7. Any PCB's or PCB-contaminated material which meet the definition of extremely hazardous waste under item L of this rule shall be designated as an R007 waste.
8. Any waste oil being voluntarily managed as a hazardous waste, but not meeting any other Rhode Island characteristics, shall be designated as an R010 waste.

(NOTE: The above waste codes are to be used only when the waste does not satisfy any of the Federal criteria of a hazardous waste.)



# Appendix 4-2

## Roads Upon Which Transport of Extremely Hazardous Wastes Is Prohibited

(Source: CRIR 12 030 003(6.03)(B))

Town	Road	From	To
Scituate, Johnston and Foster	Route 6	Route 94, Foster	Hopkins Ave., Johnston
Scituate and Smithfield	Route 116	Scituate Ave., Scituate	Snake Hill Road, Smithfield
Scituate and Cranston	Route 12	Route 14, Scituate	Route 16, Scituate
Scituate	Route 14	Route 102	Route 114
Scituate and Foster	Route 102	Route 94, Foster	Snake Hill Road, Glocester
Scituate and Foster	Central Pike	Route 94, Foster	Route 102, Scituate
Scituate	Danielson Pike	Route 6	Route 6
Scituate	Rocky Hill and Peepoad Rd	Route 101	Route 116 or Sawmill Road
Foster, Glocester and Scituate	Route 101	Route 94, Foster	Route 6, Scituate
Smithfield and North Smithfield	Reservoir Road	In its entirety	
Smithfield and Lincoln	Route 295, Exit 8	Douglas Pike, Lincoln	Route 146, Exit 9
Warren	School House Road	Birch Swamp Road	Long Lane
Warren	Serpentine Road	In its entirety	
Jamestown	North Main Road	Route 138	East Shore Road
Newport and Middletown	Bliss Mine Road	In its entirety	
Middletown	Miantonomi Avenue	Bliss Mine Road	Valley Road
Middletown	Valley Road	Miantonomi Road	Route 138
Foster	Route 94	Route 101	Route 102, Scituate
Foster and Scituate	Old Plainfield Pike	Route 102	Route 12, Scituate
Middletown	Aquidneck Avenue	Wave Avenue	Valley Road
Middletown	Wave Avenue	In its entirety	
Little Compton and Tiverton	Route 77	Peckham Road, Rt. 179, Little Compton	Tiverton
Tiverton	Neck Road	In its entirety	
Little Compton	Peckham Rd.	Route 77	Burchard Road
Little Compton	Burchard Rd.	In its entirety	
Cumberland	Reservoir Rd.	Route 114	Massachusetts Line
Cumberland	Route 120	Mendon Road	Massachusetts Line

## SECTION 5

### NATURAL RESOURCES MANAGEMENT

Rhode Island Supplement, March 1998

This section covers the state requirements for Natural Resources Management and is intended to supplement the U.S. TEAM Guide. Refer to the U.S. TEAM Guide and the DOD Component Supplements for Federal, DOD, and service-specific requirements.

#### Definitions

- *Alter the Character* - those activities which occur within or outside of freshwater wetlands which impact their natural character, functions and/or values. Such activities include but are not limited to the following: excavating; draining; filling; placing trash, garbage, sewage, road runoff, drainage ditch effluents, earth, rock, borrow, grave, sand, clay, peat, or other materials or effluents upon; diverting water flows into or out of; diking; damming; diverting; clearing; grading; constructing in; adding to or taking from or otherwise changing the character of any freshwater wetland as herein defined either individually or cumulatively (CRIR 12 100 003(5.00)).
- *Approval* - a permit or authorization issued by the Director of the Department of Environmental Management (CRIR 12 100 003(5.00)).
- *Area of Land Within Fifty Feet* - (also known as, and may be used interchangeably with, Perimeter Wetland) means a freshwater wetland consisting of the area of land within 50 ft of the edge of any bog, marsh, swamp, or pond as defined by these rules. For purposes of identification, this area shall be measured horizontally, without regard for topography, from the edge of any bog, marsh, swamp, pond, or wetland complex containing any combination of these wetland types (CRIR 12 100 003(5.00)).
- *Area Subject to Flooding* - shall include, but not be limited to, flood plains, depressions or low lying areas flooded by rivers, streams, intermittent streams, or areas subject to storm flowage which collect, hold, and/or meter out storm and flood waters (CRIR 12 100 003(5.00)).
- *Area Subject to Storm Flowage* - those drainage swales and channels which lead into, out of, and/or connect other freshwater wetlands or coastal wetlands, and which carry flows resulting from storm events but may remain relatively dry at other times (CRIR 12 100 003(5.00)).
- *Bog* - a place where standing or slowly running water shall be near or at the surface during a normal growing season and/or where a vegetational community shall have over 50 percent of the ground or water surface covered with sphagnum moss (*Sphagnum*) and/or where the vegetational community shall be made up of one or more of, but not limited to nor necessarily including all of the following: blueberries, and cranberries, leatherleaf, pitcher plant, sundews, orchids, white cedar, red maple, black spruce, bog aster, larch, bog rosemary, azaleas, laurels, sedges, bog cotton (CRIR 12 100 003(5.00)).
- *Breakwaters* - either exposed or submerged, usually are structures that protect a shore, harbor, anchorage, or basin by intercepting waves. Sometimes breakwaters are placed parallel to the open shoreline to retard the force of incoming waves to headland and barrier beaches (CRIR 04 000 010(300.7.A)).
- *Buffer Zone* - an area of undeveloped vegetated land retained in its natural undisturbed condition, or created to resemble a naturally occurring vegetated area which serves to mitigate impacts from human activities to wetland functions and values (CRIR 12 100 003(5.00)).

- *Bulkhead* - a wood, steel, or concrete structure built to retain or prevent mass wasting and collapse of a bluff into the sea; it provides limited protection from damage by waves (CRIR 04 000 010(300.7.A)).
- *Coastal Buffer Zone* - a land area adjacent to a shoreline (coastal) feature that is, or will be, vegetated with native shoreline species and which acts as a natural transition zone between the coast and adjacent upland development. A coastal buffer zone differs from a construction setback in that the setback establishes a minimum distance between a shoreline feature and construction activities, while a buffer zone establishes a natural area adjacent to a shoreline feature that must be retained in, or restored to, a natural vegetative condition. The coastal buffer zone is generally contained within the established construction setback (CRIR 04 000 010(150.A.1)).
- *Coastal Wetlands, Alterations to* - include, but shall not be limited to: filling, removing or grading; dredging and dredged materials disposal; any significant cutting or removal of vegetation; and excavation, draining, damming and/or diverting of hydrological flows in a coastal wetland. Furthermore, any activity, including the aforementioned, taking place in an area adjacent to a coastal wetland which impacts the coastal wetland, shall be considered an alteration to coastal wetlands (CRIR 04 000 010(300.12.A)).
- *Conditions* - (see Terms and Conditions) (CRIR 12 100 003(5.00)).
- *Contiguous Areas* - include all lands and waters directly adjoining shoreline features that extend inland 200 ft from the inland border of that shoreline feature (CRIR 04 000 010(100.1)).
- *Council* - the Rhode Island Coastal Resources Management Council (CRMC) or, when the context permits, to individual members, subcommittees, its staff, agents or employees (CRIR 04 000 001.1).
- *Council Office* - the offices of the council at the Division of Coastal Resources, Department of Natural Resources, 83 Park Street, Providence, Rhode Island, or any such address as may from time to time be the location of the principal office of the Council (CRIR 04 000 001.1).
- *Critical Coastal Areas* - which include watersheds of poorly flushed estuaries, are geographic areas which may vary in their ecological functions and generally require specific initiatives to manage them. Thus the CRMC has developed special area management (SAM) plans in order to address the specific environmental concerns of these priority management areas and to carry out its Federal mandate for managing areas of particular concern. The CRMC SAM plan for Providence Harbor addresses issues such as water quality, public access, and urban waterfront development. The Interstate SAM plan for the Pawcatuck River Estuary and Little Narragansett Bay is a management plan which addresses public access, water quality, recreational boating, and interstate coordination issues with Connecticut. The SAM plans for the Narrow River and Salt Pond regions address cumulative and secondary impacts of development in, and adjacent to, poorly flushed estuaries, and focus primarily on nonpoint source pollution, groundwater contamination, and onsite sewage disposal systems (OSDSs) (CRIR 04 000 010(325.A)).
- *Department* - the Department of Environmental Management of the Division of Environmental Matters (CRIR 12 100 003(5.00)).
- *Director* - the Director of the Department of Environmental Management or his/her authorized designee (CRIR 12 100 003(5.00)).
- *Drain* - to lower the surface water and/or groundwater elevation either temporarily or on a permanent basis (CRIR 12 100 003(5.00)).
- *Dredged Materials Disposal* - the process of discharging, depositing, dumping, or utilizing the sediments produced by a dredging operation (CRIR 04 000 010(300.9.A)).
- *Dredging* - the excavation of sediments from beneath tidal and coastal pond waters by mechanical or hydraulic means. Dredging for navigation purposes is divided into two categories (CRIR 04 000 010(300.9.A)):

1. improvement dredging includes new projects in previously undredged areas
  2. maintenance dredging includes projects whose purpose is to restore channels and basins to dimensions that support and maintain existing levels of use.
- *Emergency Alteration* - an activity or alteration authorized by the Director within any wetland area which must be undertaken to protect the health and safety of the public from actual or threatened imminent harm (CRIR 12 100 003(5.00)).
  - *Emergent Plant Community* - a wetland characterized by erect, rooted, herbaceous hydrophytic vegetation, which is present for most of the growing season in most years and which may be persistent or nonpersistent in nature (CRIR 12 100 003(5.00)).
  - *Excavate* - to dig into, cut, quarry, uncover, remove, displace, relocate, or grade any earth, soil, sand, gravel, rock, peat, organic, inorganic, or any other similar material (CRIR 12 100 003(5.00)).
  - *Fill* - to place dirt, soil, stones, gravel, sand, sediment, tree stumps, brush, leaves, solid waste, debris, garbage, trash, pollutants, or any other material, substance, or structure, either foreign or related, on or in any wetland or in such a way as to alter the natural character, function and/or value of any wetland (CRIR 12 100 003(5.00)).
  - *Filling* - the deposition of materials of upland origin onto shoreline features or their contiguous areas (CRIR 04 000 010(300.2.A)).
  - *Floating Business* - a building constructed on a raft or hull that is represented as a place of business, including but not limited to waterborne hotels, restaurants, marinas or marina-related businesses (CRIR 04 000 010(300.5)).
  - *Floodplain* - that land area adjacent to a river or stream or other body of flowing water which is, on the average, likely to be covered with flood waters resulting from a 100-yr frequency storm. A 100-yr frequency storm is one that is to be expected to be equaled or exceeded once in 100 yr; or may be said to have a 1 percent probability of being equaled or exceeded in any given year. Rainfall intensity data for a 100-yr frequency storm are those established for New England locations by the National Weather Service (formerly the U.S. Weather Bureau) (CRIR 12 100 003(5.00)).
  - *Floodway* - the channel of a river or stream, plus any immediate adjacent areas that must be kept free of encroachment in order that the 100-yr flood waters can be carried without increase in flood heights or flows and without endangering life and/or property (CRIR 12 100 003(5.00)).
  - *Flowing Body of Water* - any river, stream, or intermittent stream which flows long enough during the year to develop and maintain defined channels and generally has flowing waters at times other than those periods immediately following storm events. Such watercourses have defined banks, a bed, and maintain visible evidence of flow or continued reoccurrence of flowing water (CRIR 12 100 003(5.00)).
  - *Forested Wetland* - a wetland dominated by woody plants (trees) greater than 20 ft tall (CRIR 12 100 003(5.00)).
  - *Freshwater Wetland* -
    1. bog, flood plain, pond, marsh, river bank, swamp, river, area of land within 50 ft, area(s) subject to flooding, area(s) subject to storm flowage, floodway, flowing body of water, stream, intermittent stream, perimeter wetland, submergent and emergent plant communities, special aquatic sites, and shrub and forested wetland
    2. those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions
    3. any or all wetlands created as part of, or the result of, any activity permitted or directed by the Department after 16 July 1971 including, but not limited to: restored wetlands; value replacement

wetlands created to compensate for wetland loss such as flood plain excavations; biofiltration areas; and any wetlands created, altered or modified after 16 July 1971.

The Director has the sole authority to determine which areas are freshwater wetlands (CRIR 12 100 003(5.00)).

- *Grading* - the process whereby fill or the soils of a shoreline or its contiguous area are redistributed or leveled (CRIR 04 000 010(300.2.A)).
- *Groin* - a structure built of rock, steel, timber, or concrete that extends across a beach into tidal waters and is used to entrap sand in the longshore transport system; groins are generally perpendicular to the shoreline's coastal trend (CRIR 04 000 010(300.7.A)).
- *Houseboat* - a building constructed on a raft, barge, or hull that is used primarily for single- or multiple-family habitation; if used for transportation this use is secondary (CRIR 04 000 010(300.5)).
- *Individual Sewage Disposal System (ISDS)* - any arrangement for sanitary sewage disposal by means other than discharge into a public sewer system (CRIR 04 000 010(300.6.A)).
- *Jetties* - structures, usually of dumped stone in Rhode Island (rubble mound), that retard the migration of a tidal inlet (breachway) in order to provide safer passage for boats in and out of coastal lagoons and estuaries (CRIR 04 000 010(300.7.A)).
- *Launching Ramp* - a manmade or natural facility used for the launching and retrieval of boats (CRIR 04 000 010(300.4)).
- *Maintenance Activities* - those actions necessary to ensure the upkeep of existing manmade structures which were constructed with all necessary Federal, state and/or local permits; and other limited activities as set forth in Rule 6.03 (CRIR 12 100 003(5.00)).
- *Maintenance of Structures* - includes rebuilding, reconstructing, repairing or reestablishing to previously approved conditions and dimensions a damaged or deteriorated structure or facility. Maintenance includes only those activities that do not significantly alter the assented design, purpose, and size of the structure (CRIR 04 000 010(300.14.A)).
- *Marina* - any dock, pier, wharf, float, floating business, or combination of such facilities that service five or more recreational boats as a commercial enterprise or in association with a club (CRIR 04 000 010(300.4)).
- *Marsh* - a place not less than 1 acre in extent wholly or partly within the state of Rhode Island where a vegetational community shall exist in standing or running water during the growing season and/or shall be made up of one or more of, but not limited to nor necessarily including all of the following plants or groups of plants: hydrophytic reeds, grasses, mannagrasses, cutgrasses, pickerelweeds, sedges, rushes, cattails, water plantains, bur-reeds, pondweeds, frog's bits, arums, duckweeds, water lilies, watermilfoils, water starworts, bladderworts, pipeworts, sweet gale, buttonbush (CRIR 12 100 003(5.00)).
- *Mitigation, Coastal Wetlands* - avoidance and minimization of impacts and compensation for unavoidable losses by creating or restoring coastal wetlands. Mitigation projects are those projects undertaken to compensate for unavoidable losses after impacts associated with a proposed activity have been avoided and minimized to the maximum extent practicable. The Council recognizes the restoration of historic wetlands and the creation of new wetlands as the only acceptable means of compensating for unavoidable losses of coastal wetlands (CRIR 04 000 010(300.12.A)).
- *Mitigation, Freshwater Wetlands* - means a process undertaken as an individual action or by cumulative actions to avoid or lessen the damaging effects of human activities upon freshwater wetlands and the functions and values that they provide prior to, during, and/or after the completion of any freshwater wetland alterations or projects (CRIR 12 100 003(5.00)).

- *Mosquito Ditching* - the maintenance and construction of ditches in coastal wetlands in order to enhance tidal flushing and thereby reduce and control mosquito breeding sites (CRIR 04 000 010(300.12.A)).
- *Open Marsh Water Management* - the maintenance and construction of reservoirs and connectors in order to enhance the tidal food web and thereby reduce and control mosquito breeding sites (CRIR 04 000 010(300.12.A)).
- *Permit* - an authorization, in the form of a document issued and signed by the Director, which allows the conditional alteration of freshwater wetlands (CRIR 12 100 003(5.00)).
- *Point Source Discharges* - any conveyance including, but not limited to, any pipe, ditch, channel, tunnel, conduit, container, transport vehicle or vessel from which sewage is or may be discharged (CRIR 04 000 010(300.6.A)).
- *Pond* - a place not less than one-quarter acre in extent, natural or manmade, wholly or partly within the state of Rhode Island, where open standing or slowly moving water shall be present for at least 6 mo per year (CRIR 12 100 003(5.00)).
- *Recreational Mooring Area* - any designated area managed by a commercial enterprise, a club, city, or town where five or more recreational craft are kept at moorings (CRIR 04 000 010(300.4)).
- *Removing* - the process of taking away, including excavation, blasting, or mining, any portion of a shoreline or its contiguous area (CRIR 04 000 010(300.2.A)).
- *Residential Boating Facility* - a dock, pier, wharf, or float, or combination of such facilities, contiguous to a private residence, condominium, cooperative or other home owners' association properties that may accommodate up to four boats (CRIR 04 000 010(300.4)).
- *Restoration* - the result of actions which, in the opinion of the Director, reinstates or will reinstate, insofar as possible, the functions and values of a wetland which has been altered (CRIR 12 100 003(5.00)).
- *Revetment* - a structure built to armor a sloping shoreline face usually composed of one or more layers of stone or concrete riprap. A revetment blankets, and generally conforms to, the contours of a coastal feature (CRIR 04 000 010(300.7.A)).
- *Riprap* - consists of stone or concrete forms that are dumped or placed and installed without mortar (CRIR 04 000 010(300.7.A)).
- *River* - a body of water designated as a perennial stream by the U.S. Department of Interior Geologic Survey on 7.5 min series topographic maps and which is not a pond as defined in these Rules (CRIR 12 100 003(5.00)).
- *Riverbank* - that area of land within 200 ft of the edge of any flowing body of water having a width of 10 ft or more, and that area of land within 100 ft of the edge of any flowing body of water having a width of less than 10 ft during normal flow (CRIR 12 100 003(5.00)).
- *Seawall* - a massive, stand alone structure built of placed or dumped stone, concrete, or steel sheetpile. Concrete seawalls often have curved, or stepped face designed to withstand the direct onslaught of ocean waves (CRIR 04 000 010(300.7.A)).
- *Sediment* - any organic or inorganic material that is in suspension, has been deposited, is being transported, or has been moved from its site of origin by air, water, gravity, or ice (CRIR 12 100 003(5.00)).
- *Setbacks* - the minimum distance from the inland boundary of a coastal feature at which an approved activity or alteration may take place (CRIR 04 000 010(140)).

- *Sewage* - any human or animal excremental liquid or substance, any decomposed animal or vegetable matter, garbage, offal, filth, waste, chemicals, acid, dyestuff, starch, coloring matter, oil and tar, radioactive substances and any compound solution, mixture or product thereof, and every substance which may be injurious to public health or comfort, or which would injuriously affect the natural and healthy propagation, growth or development of any fish or shellfish in the waters of this state, or of the nourishment of the same, or which would injuriously affect the flavor, taste, or value of food of any such fish or shellfish or which would defile said waters or injure or defile any vessel, boat, wharf, pier, or any public or private property upon, in or under said waters or any shore thereof. For purposes of the Coastal Resources Management Program, sewage is further defined to include freshwater discharges including runoff that may significantly alter the salinity of tidal waters or salt ponds. The term sewage also includes discharges of heated waters (CRIR 04 000 010(300.6.A)).
- *Sewage Treatment Plants* - sewage collection and treatment facilities, including state, municipal, or privately owned and operated collection, pumping, treating, disposal or dispersion facilities designed for the treatment of sewage from residences, commercial buildings, industrial plants and institutions, together with any groundwater, surface water, or surface runoff that may be present in the waste stream (CRIR 04 000 010(300.6.A)).
- *Shrub Wetland* - a wetland dominated by woody plants less than 20 ft tall (CRIR 12 100 003(5.00)).
- *Stormwater Management Plan* - a description of the proposed best management practices, detailed site plans, and written narrative that, when implemented, provides protection and restoration of receiving waters by reducing pollutant loadings and other negative impacts associated with changes in land use (i.e., urbanization) (CRIR 04 000 010(300.6.A)).
- *Stormwater Runoff* - that portion of precipitation that does not naturally infiltrate into the landscape (e.g., without human influence) but rather travels overland as surface flow. It is also commonly referred to as stormwater. Stormwater runoff can be a significant contributor of pollutants including sediments, bacteria, nutrients (e.g., nitrogen and phosphorus), hydrocarbons (e.g., oil and grease), metals, and other substances which can adversely affect water quality and the coastal environment. In addition, significant discharges of stormwater may alter salinity and thereby adversely impact the coastal environment, especially in poorly flushed estuaries and embayments (CRIR 04 000 010(300.6.A)).
- *Stream/Intermittent Stream* - any flowing body of water or watercourse other than a river which flows during sufficient periods of the year to develop and maintain defined channels. Such watercourses carry groundwater discharge and/or surface runoff. Such watercourses may not have flowing water during extended dry periods but may contain isolated pools or standing water (CRIR 12 100 003(5.00)).
- *Structural Shoreline Protection Facilities* - include revetments, bulkheads, seawalls, groins, breakwaters, jetties, and other structures, the purpose or effect of which is to control the erosion of coastal features (CRIR 04 000 010(300.7.A)).
- *Submergent Plant Community* - a wetland characterized by plants that grow principally below the surface of the water for most of the growing season. Submergent plants are either attached to the substrate or float freely in the water (CRIR 12 100 003(5.00)).
- *Substantive Objections* - defined by one or more of the following:
  1. threat of direct loss of property, property values, or other tangible assets of the objector(s) at the site in question
  2. direct evidence that the proposed alteration or activity does not meet all of the policies, prerequisites, and standards contained in applicable sections of this document
  3. evidence is presented which demonstrates that the proposed activity or alteration has a potential for significant adverse impacts on one or more of the following descriptors of the coastal environment:
    - a. circulation and/or flushing patterns
    - b. sediment deposition and erosion

- c. biological communities, including vegetation, shellfish and fin fish resources, and wildlife habitat
  - d. areas of historic and archaeological significance
  - e. scenic and/or recreation values
  - f. water quality
  - g. public access to and along the shore
  - h. shoreline erosion and flood hazards
- 4. evidence that the proposed activity or alteration does not conform to state or duly adopted municipal development plans, ordinances, or regulations (CRIR 04 000 010(110.3)).
- *Swamp* - a place not less than 3 acres in extent wholly or partly within the state of Rhode Island where groundwater shall be near or at the surface of the ground for a significant part of the growing season, or where runoff water from surface drainage shall collect frequently, and/or where a vegetational community shall be made up of a significant portion of one or more of, but not limited to nor necessarily including all of the following: red maple, elm, black spruce, white cedar, ashes, poison sumac, larch, spice bush, alders, skunk cabbage, hellebore, hemlock, sphagnums, azaleas, black alder, coast pepperbush, marsh marigold, blueberries, buttonbush, willow, water willow, tupelo, laurels, swamp white oak, or species indicative of marsh (CRIR 12 100 003(5.00)).
- *Terms and Conditions* - any requirements specified by the Director which, in his/her opinion, are necessary to prevent any authorized or permitted project or activity from reducing the functions and values associated with any wetland; prevent any significant alteration which is not authorized; prevent the destruction of any wetland or portion thereof; or protect the health, welfare, and general well being of the public. These terms and conditions may include, but not be limited to, the following (CRIR 12 100 003(5.00)):
  - 1. soil stability, including prevention of erosion and deposition of sediment in any freshwater wetland
  - 2. flood prevention
  - 3. protection of wildlife and wildlife habitat and its functions and values
  - 4. preservation of recreational activities and values
  - 5. protection of water quality
  - 6. development and maintenance of mitigating features
  - 7. time for completion including restrictions thereof
  - 8. statutory and/or regulatory requirements and limitations
  - 9. construction phasing
  - 10. monitoring and reporting for compliance and enforcement.
- *Wetland Creation* - the construction of a new coastal wetland where one had not previously existed (CRIR 04 000 010(300.12.A)).
- *Wetland Restoration* - the reestablishment of a wetland (on the site of an historical wetland) which has been degraded to such an extent that the site performs little or none of its original wetland functions (CRIR 04 000 010(300.12.A)).



**NATURAL RESOURCES MANAGEMENT  
GUIDANCE FOR RHODE ISLAND CHECKLIST USERS**

**REFER TO CHECKLIST ITEMS:**

Dredging	NR.5.1.RI. and NR.5.2.RI.
Land Management	
(NOTE: The checklist items in this section have either been deleted or moved to section NR.15.RI.)	
Water Resource Management	NR.15.1.RI. through NR.15.9.RI.
Wetlands	NR.15.10.RI. through NR.15.13.RI.
Wildlife	NR.20.1.RI. and NR.20.2.RI.

**GUIDANCE FOR APPENDIX USERS**

**REFER TO APPENDIX NUMBERS:**

**REFER TO APPENDIX TITLES:**

5-1	Tidal Waters and Coastal Pond Waters
5-2	Review Categories in the 200-ft Area Contiguous to Shoreline Features
5-3	Review Categories for Inland Activities
5-4	Review Categories and Prohibited Activities in Tidal Waters and on Adjacent Shoreline Features
5-5	State Endangered Species in Rhode Island



**COMPLIANCE CATEGORY:  
NATURAL RESOURCES MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>NR.5. DREDGING</b></p> <p><b>NR.5.1.RI.</b> Dredging sediments from beneath tidal and coastal pond waters requires a permit (CRIR 04 000 010(300.9.C)).</p> <p><b>NR.5.2.RI.</b> Installations/ CW facilities dredging sediments from beneath tidal and coastal pond water must meet operating requirements (CRIR 04 000 010(300.9.D and F.1.d)) [Revised March 1998].</p>	<p>Verify that installations/CW facilities proposing to engage in the dredging of sediments from beneath tidal and coastal pond waters, obtain a permit from the Council before the activities begin.</p> <p>Verify that the terms and conditions of the permit are met.</p> <p>Verify that no disposal of dredged materials occurs on or adjacent to coastal wetlands in Type 1 and 2 waters (see Appendix 5-1) unless associated with a Council-approved program of wetland building or rehabilitation.</p> <p>Verify that no disposal of dredged materials occurs on coastal wetlands designated for preservation in Type 3, 4, 5, and 6 waters.</p> <p>Verify that no dredging for navigational purposes occurs in Type 1 waters, and only permitted maintenance dredging occurs in Type 2 waters.</p> <p>Verify that shellfish dredged from waters classified SB or lower is not made available for human consumption or bait.</p>



**COMPLIANCE CATEGORY:  
NATURAL RESOURCES MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>NR.10. LAND MANAGEMENT</b></p> <p><b>NR.10.1.RI.</b> [Moved to NR.15. March 1998].</p> <p><b>NR.10.2.RI.</b> [Moved to NR.15. March 1998].</p> <p><b>NR.10.3.RI.</b> [Moved to NR.15. March 1998].</p> <p><b>NR.10.4.RI.</b> [Deleted March 1998].</p> <p><b>NR.10.5.RI.</b> [Deleted March 1998].</p> <p><b>NR.10.6.RI.</b> [Deleted March 1998].</p> <p><b>NR.10.7.RI.</b> [Moved to NR.15. March 1998].</p> <p><b>NR.10.8.RI.</b> [Deleted March 1998].</p> <p><b>NR.10.9.RI.</b> [Moved to NR.15. March 1998].</p> <p><b>NR.10.10.RI.</b> [Moved to NR.15. March 1998].</p>	

COMPLIANCE CATEGORY: NATURAL RESOURCES MANAGEMENT Rhode Island Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 1998
NR.10.11.RI. [Moved to NR.15. March 1998].	
NR.10.12.RI. [Moved to NR.15. March 1998].	
NR.10.13.RI. [Moved to NR.15. March 1998].	

**COMPLIANCE CATEGORY:  
NATURAL RESOURCES MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>NR.15. WATER RESOURCE MANAGEMENT</b></p> <p><b>NR.15.1.RI.</b> Specific activities in tidal waters, on shoreline features, and in contiguous areas require a Council assent or permit (CRIR 04 000 002(4.1) and 04 000 010(100.1)) [Revised March 1998].</p>	<p>Verify that before they commence, alterations or activities listed in Appendix 5-2 through Appendix 5-4 have been given Council assent.</p> <p>Verify that before they commence, alterations or activities which are not listed in Appendix 5-2 through Appendix 5-4, but which meet the following criteria, have been given Council assent:</p> <ul style="list-style-type: none"> <li>- have a reasonable probability of conflicting with the Council's goals and its management plans or programs</li> <li>- have the potential to damage the environment of the coastal region.</li> </ul> <p>Verify that an Assent card is posted, and copy of the Assent is available at the site where the intended activity or alteration takes place.</p> <p>Verify that developments and operations located in the following places receive Council permits before they commence:</p> <ul style="list-style-type: none"> <li>- within, above, or beneath tidal waters below the mean high water mark extending out to the extent of the state's jurisdiction in the territorial sea</li> <li>- on coastal features within all directly associated contiguous areas necessary to preserve the integrity of coastal resources.</li> </ul> <p>Verify that the following facilities receive Council permits before they commence:</p> <ul style="list-style-type: none"> <li>- power-generating and desalination plants</li> <li>- chemical or petroleum processing, transfer, or storage</li> <li>- minerals extraction</li> <li>- sewage treatment and disposal facilities</li> <li>- solid waste disposal facilities, whether residential, municipal, or industrial</li> <li>- shoreline protection facilities and activities on shoreline physiological features as well as all contiguous associated areas necessary to preserve the integrity of the features or facilities</li> <li>- alterations to, or activities occurring on, coastal wetlands and all directly associated contiguous areas necessary to preserve the integrity of the wetlands.</li> </ul>
<p><b>NR.15.2.RI.</b> Operations or facilities that on located on a</p>	<p>Verify that there are no active industrial operations and structures in Type 1 and 2</p>

**COMPLIANCE CATEGORY:  
NATURAL RESOURCES MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p>shoreline feature, its contiguous area, or within tidal waters must apply for a permit (CRIR 04 000 10 (300.3)) [Revised March 1998].</p>	<p>waters (see Appendix 5-1) or on shoreline features abutting these waters.</p> <p>Verify that there is no mining and extraction of minerals, including sand and gravel, from tidal waters and salt ponds.</p> <p>(NOTE: This prohibition does not apply to dredging for navigation purposes, channel maintenance, habitat restoration, or beach replenishment.)</p> <p>Verify that there are no solid waste disposal and minerals extraction on shoreline features and their contiguous areas.</p> <p>Verify that fill is not used for structural support of buildings in flood hazard V zones.</p> <p>Verify that the facility complies with the terms of the Council permit.</p> <p>Verify that flood zone construction complies with permit requirements.</p>
<p><b>NR.15.3.RI.</b> Recreational boating facilities must comply with prohibitions and standards (CRIR 04 000 010(300.4)) [Revised March 1998].</p>	<p>Verify that repair or reconstruction of all structures which are physically destroyed by 50 percent or more by wind, storm surge, waves, or other coastal processes receive a new Council assent.</p>
<p><b>NR.15.4.RI.</b> Mooring and anchoring of houseboats and floating businesses must meet specific requirements (CRIR 04 000 010(300.5)).</p>	<p>Verify that houseboats and floating businesses do not berth or moor in coastal ponds or Type 1 and 2 waters.</p> <p>Verify that floating businesses do not moor or anchor in the tidal waters of the state unless within the boundaries of a marina or a port.</p> <p>Verify that discharge of sanitary sewage to tidal waters from houseboats or floating businesses using marina or port facilities occurs only by devices approved by the U.S. Coast Guard.</p> <p>Verify that houseboats and floating businesses tie into marina or port holding-tank pumpout facilities where available.</p>
<p><b>NR.15.5.RI.</b> Construction, alteration, or extension of individual sewage disposal systems or point source</p>	<p>Verify that installations/CW facilities obtain permits from DEM before applying for a Council assent.</p> <p>Verify that there are no:</p>

<p align="center"><b>COMPLIANCE CATEGORY:</b>  <b>NATURAL RESOURCES MANAGEMENT</b>  <b>Rhode Island Supplement</b></p>	
<p><b>REGULATORY REQUIREMENTS:</b></p>	<p><b>REVIEWER CHECKS:</b>  <b>March 1998</b></p>
<p>discharges must be permitted (CRIR 04 000 10(300.6)).</p>	<ul style="list-style-type: none"> <li>- point source discharges of sewage and/or stormwater runoff on unconsolidated coastal banks and bluffs</li> <li>- new and enlarged stormwater discharges to the high salt marsh environment bordering Type 1 and Type 2 waters (see Appendix 5-1) and within salt marshes designated for preservation which border Type 3, 4, 5, and 6 waters.</li> </ul> <p>(NOTE: Stormwater discharges to existing well flushed tidal channels within high marshes are not subject to this prohibition.)</p>
<p><b>NR.15.6.RI.</b> Installations/CW facilities conducting certain activities within the watersheds of poorly flushed estuaries must comply with regulations (CRIR 04 000 010(325)).</p>	<p>(NOTE: The Council has determined that the following activities within the watersheds of poorly flushed estuaries have a reasonable probability of conflicting with the management goals and objectives of this program or the Council's special area management plans:</p> <ul style="list-style-type: none"> <li>- a structure serviced by an onsite sewage disposal system serving 2000 gal or more per day</li> <li>- an activity which results in the creation of 40,000 ft or more of impervious surface</li> <li>- construction or extension of municipal or industrial sewage treatment facilities and sewer lines</li> <li>- construction or extension of water distribution systems and/or supply lines.)</li> </ul> <p>Verify that installations/CW facilities proposing these activities within critical coastal areas apply for a Council assent.</p> <p>Verify that installations/CW facilities satisfy all applicable requirements specified in the Rhode Island CRMP as well as the Council's special area management plans.</p>
<p><b>NR.15.7.RI.</b> Installations/CW facilities must maintain setbacks in areas contiguous to coastal beaches, coastal wetlands, coastal cliffs and banks, rocky shores, and existing manmade shorelines (CRIR 04 000 010(140)).</p>	<p>(NOTE: Setbacks apply to the following categories of activities and alterations:</p> <ul style="list-style-type: none"> <li>- filling, removal or grading, except when part of an approved alteration involving a water-dependent activity or structure</li> <li>- new individual sewage disposal systems, sewage treatment plants, and associated sewer facilities excluding outfalls</li> <li>- industrial structures, commercial structures, and public recreation structures that are not water dependent</li> <li>- transportation facilities that are not water dependent.)</li> </ul> <p>(NOTE: The setback provisions do not apply to minor modifications or restoration of structures that conform with all other policies and standards of this program.)</p> <p>Verify that setbacks extend a minimum of either 50 ft from the inland boundary of the coastal feature or a minimum of 25 ft inland of the edge of a coastal buffer</p>

**COMPLIANCE CATEGORY:  
NATURAL RESOURCES MANAGEMENT  
Rhode Island Supplement**

**REGULATORY  
REQUIREMENTS:**

**REVIEWER CHECKS:  
March 1998**

**NR.15.8.RI.** Construction and maintenance of shoreline protection facilities located below mean high water must meet specific requirements (CRIR 04 000 010(300.7.C and G.1 through 3)) [Revised March 1998].

zone, whichever is further landward.

Verify that setbacks in critical erosion areas comply with the following table:

Erosion Category	Annual Estimated Rate (ft)	Setback Distance (ft)*	Setback Distance (ft)**
A	2 to 2.5	75	150
B	3 to 4	120	240
C	4 to 5	150	300
D	5 to 6	180	360

\*four dwelling units or less

\*\*more than four dwelling units

(NOTE: Setbacks in critical erosion areas as found on the accompanying Shoreline Change Maps for Watch Hill to Point Judith will be determined using the rates of change found on each map.)

(NOTE: Structural shoreline protection facilities include revetments, bulkheads, seawalls, groins, breakwaters, jetties, and other structures, the purpose or effect of which is to control the erosion of coastal features.)

Verify that the facility obtains a permit from the Council for the construction of any shoreline protection facilities located below mean high water.

(NOTE: Permits for such projects must be obtained concurrently from the Army Corps of Engineers and the CRMC. A CRMC assent is not valid unless the applicant has received all required Army Corps of Engineers approvals.)

Verify that, to the maximum extent practical, there is no farther seaward expansion of structural shoreline protection facilities as a result of repair or maintenance activities.

Verify that maintenance and repair of existing structural shoreline protection facilities is the minimum required to maintain the functional viability or structural integrity.

Verify that for riprap revetments, only limited quantities of riprap armor stone are added to existing damaged revetments a maintenance activity, and that there is no impact to coastal resources or lateral access results.

Verify that maintenance and repair activities minimize any adverse impact to water quality such as disturbance of sediment.

**COMPLIANCE CATEGORY:  
NATURAL RESOURCES MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>NR.15.9.RI.</b> The maintenance of structures or facilities that have received a Council Assent must be approved (CRIR 04 000 010(300.14.B.1 and 2)) [Revised March 1998].</p> <p><b>Wetlands</b></p>	<p>(NOTE: Maintenance of structures includes rebuilding, reconstructing, repairing or reestablishing to previously approved conditions and dimensions a damaged or deteriorated structure or facility. Maintenance includes only those activities that do not significantly alter the assented design, purpose, and size of the structure.)</p> <p>Verify that installations/CW facilities apply for a certificate of maintenance prior to conducting maintenance activities on structures or facilities that have received a Council Assent.</p> <p>Verify that installations/CW facilities proposing to maintain dredged channels and mooring areas or mosquito control ditches in coastal wetlands obtain a new Council Assent.</p>
<p><b>NR.15.10.RI.</b> Installations/CW facilities proposing alterations to coastal wetlands must obtain a Special Exception (CRIR 04 000 010(300.12)) [Revised March 1998].</p>	<p>(NOTE: Alterations to coastal wetlands are defined to include, but are not limited to: filling, removing or grading; dredging and dredged materials disposal; any significant cutting or removal of vegetation; and excavation, draining, damming and/or diverting of hydrological flows in a coastal wetland. Furthermore, any activity, including the aforementioned, taking place in an area adjacent to a coastal wetland which impacts the coastal wetland, is considered an alteration to coastal wetlands.)</p> <p>Verify that installations/CW facilities proposing any alteration to coastal wetlands obtain a Special Exception from the Council.</p> <p>(NOTE: Applicants proposing alterations to coastal wetlands are required to obtain permits from the Army Corps of Engineers and applicable permits from the Department of Environmental Management. Applicants have to consult with these agencies for a determination of the need for additional permits and obtain any required permits prior to undertaking any mitigation activities.)</p> <p>(NOTE: The following actions are prohibited:</p> <ul style="list-style-type: none"> <li>- all alterations to coastal wetlands abutting Type 1 waters except for minimal alterations required for the construction or repair of an approved or preexisting structural shoreline protection facility and alterations resulting from approved mosquito population control programs</li> <li>- alterations to coastal wetlands which are adjacent to Types 3, 4, 5, and 6 waters and which are not designated for preservation, unless: <ul style="list-style-type: none"> <li>- the alteration is made to accommodate a designated priority use for that water area</li> <li>- the applicant has examined all reasonable alternatives and the Council has determined that the selected alternative is the most reasonable and</li> <li>- only the minimum alteration necessary to support the priority use is</li> </ul> </li> </ul>

**COMPLIANCE CATEGORY:  
NATURAL RESOURCES MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>NR.15.11.RI.</b> Projects or activities that may alter fresh water wetlands must be permitted (CRIR 12 100 003(7.01.A and C)).</p>	<p style="text-align: center;">made</p> <ul style="list-style-type: none"> <li>- the practice of applying broad spectrum persistent pesticides on any coastal wetland area</li> <li>- future development on any mitigation site; all alterations to mitigation sites other than those required to maintain, or enhance the restored or created coastal wetland.)</li> </ul> <p>Verify that the installation/CW facility obtains a permit before engaging in any of the following actions that may affect the character of any freshwater wetland:</p> <ul style="list-style-type: none"> <li>- excavating</li> <li>- draining</li> <li>- filling</li> <li>- placing trash, garbage, sewage, road runoff, drainage ditch effluents, earth, rock, borrow, gravel, sand, clay, peat, or other materials or effluents:</li> <li>- diverting water flows into or out of</li> <li>- diking</li> <li>- damming</li> <li>- diverting</li> <li>- clearing</li> <li>- grading</li> <li>- constructing in</li> <li>- adding to or taking from</li> <li>- otherwise changing.</li> </ul> <p>Verify that the installation/CW facility seeks a permit from the Director by filing either a Request for Preliminary Determination or an Application to Alter.</p> <p>Verify that the installation/CW facility complies with the conditions of the permit.</p>
<p><b>NR.15.12.RI.</b> Projects or activities outside of fresh water wetlands but that may affect fresh water wetlands must apply for a permit (CRIR 12 100 003 (7.01.B and C)) [Revised March 1998].</p>	<p>Verify that installations/CW facilities with proposed projects or activities outside of fresh water wetlands that may affect the wetlands seek a permit from the Director by filing either a Request for Preliminary Determination or an Application to Alter.</p> <p>Verify that the installation/CW facility complies with conditions of the permit.</p> <p>(NOTE: Projects or activities outside of fresh water wetlands that may affect the wetlands include:</p> <ul style="list-style-type: none"> <li>- proposed projects or activities that may result in a change to the normal surface runoff characteristics which increases the rate or volume of water flowing into, or draining or diverting water away from, freshwater wetlands by:</li> <li>- creating or significantly increasing impervious areas</li> </ul>

**COMPLIANCE CATEGORY:  
NATURAL RESOURCES MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>NR.15.13.RI.</b> The alteration of a wetlands under emergency conditions must be verbally approved (CRIR 12 100 003 (9.01)).</p>	<ul style="list-style-type: none"> <li>- modifying runoff characteristics by grading significant amounts of land area or clearing and permanently modifying significant amounts of vegetative cover on areas draining to freshwater wetlands</li> <li>- diversion of and concentration of surface runoff through swales, ditches, grading, drainage systems and other surface runoff conveyance systems to or away from freshwater wetlands</li> <li>- proposed projects or activities that may result in diversion of groundwater into or away from freshwater wetlands by:               <ul style="list-style-type: none"> <li>- installation of subdrains which will lower groundwater elevations supplying freshwater wetlands or increase flow into wetlands</li> <li>- installation of underground utilities bedded in pervious materials which may act as a subdrain to divert groundwater away from or to concentrate such water in freshwater wetlands</li> <li>- installation of wells, other than wells intended for a single family home, which will remove significant amounts of water supplying and/or affecting any freshwater wetland</li> </ul> </li> <li>- proposed projects or activities that may result in a modification to the quality of water reaching freshwater wetlands which could change their natural character.)</li> </ul> <p>Verify that the installation/CW facility requests permission from the Director of the Department of Environmental Management prior to proceeding with an emergency alteration.</p> <p>Verify that any emergency alteration undertaken does not result in a permanent alteration of any wetland.</p> <p>Verify that the installation/CW facility, in so far as possible, restores the wetland area to prevent or minimize any permanent alteration.</p> <p>Verify that alteration of wetlands does not exceed work beyond that necessary to abate the emergency.</p> <p>(NOTE: The time limitation for performance of an emergency alteration must not exceed 10 days following initial approval by the Department unless written approval is obtained from the Department.)</p> <p>Verify that installation/CW facility complies with any additional activities necessary to prevent any permanent alteration or to finalize wetland restoration as detailed in writing by the Department.</p>



**COMPLIANCE CATEGORY:  
NATURAL RESOURCES MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>NR.20. WILDLIFE</b></p> <p><b>NR.20.1.RI.</b> Installations/ CW facilities must obtain a permit in order to traffic in any endangered species for the purposes of scientific research or educational display (CRIR 20-37-1 through 20-37-3).</p> <p><b>NR.20.2.RI.</b> Aquaculture activities must be permitted (CRIR 04 000 010(300.11.C.2, E, and F).</p>	<p>Determine if the endangered species activities proposed by the facility are performed under the formal supervision of a legitimate college or university.</p> <p>Determine which of the species has been declared endangered by the Director of DEM (see Appendix 5-5).</p> <p>Verify that the installation/CW facility obtains a permit from the Director of DEM.</p> <p>Verify that a permit is obtained for each species.</p> <p>Verify that the installation/CW facility complies with the terms and conditions of the permit.</p> <p>Verify that possession, importation, and transportation of species used in aquaculture is permitted by the Director of DEM.</p> <p>Verify that fish pen aquaculture operations do not operate in coastal ponds.</p> <p>Verify that in the event of revocation, termination, or expiration of any lease or assent, the installation/CW facility restores the area to preexisting conditions within 90 days from the date of permit revocation, termination, or expiration.</p> <p>(NOTE: This includes the removal of all structures, rafts, floats, markers, buoys, anchors, and other equipment brought to the site. Failure to comply with the Council's order to restore the site may result in the forfeiture of the permit bond posted by the lessee.)</p> <p>Verify that the areas under permit are marked off by appropriate ranges, monuments, stakes, buoys, or fences placed so as not to interfere unnecessarily with navigation and other traditional uses of the water surface.</p> <p>Verify that all authorized limitations upon the public use of areas subject to the permit are posted.</p> <p>Verify that all transient aquaculture gear is operated within defined areas as established by the tidal water aquaculture management plan.</p>



## Appendix 5-1

### Tidal Waters and Coastal Pond Waters

(Source: CRIR 04 000 010(200) (A) (2))

The six categories of waters defined in this Program are directly linked to the characteristics of the shoreline, since the activities on the adjacent mainland are the primary determinant of the uses and qualities of any specific water site.

- Type 1 waters abut shorelines in a natural undisturbed condition, where alterations, including the construction of docks and any dredging, are considered by the Council as unsuitable.
- Type 2 waters are adjacent to predominantly residential areas, where docks are acceptable, but more intense forms of development, including more marinas and new dredging projects (but not maintenance dredging) would change the area's character and alter the established balance among uses. Alterations such as these would bring more intensive uses and are therefore prohibited in Type 2 waters. The waters along some 70 percent of the state's 420 mi of shoreline have been assigned to Type 1 and Type 2, and should be expected to retain their high scenic values and established patterns of low-intensity use.
- Type 3 waters are dominated by commercial facilities that support recreational boating. Here marinas, boat yards, and associated businesses take priority over other uses, and dredging and shoreline alterations are to be expected.
- Type 4 areas include the open waters of the bay and the sounds, where a balance must be maintained among fishing, recreational boating, and commercial traffic. Here high water quality and a healthy ecosystem are primary concerns. The last two water use categories are assigned to areas adjacent to ports and industrial waterfronts. In these waters, maintenance of adequate water depths is essential, high water quality is seldom achievable, and some filling may be desirable.
- Within Type 5 ports, a mix of commercial and recreational activities must co-exist.
- In Type 6 waters, water-dependent industrial and commercial activities take precedence over all other activities. The water categories described in this section are complemented by policies for shoreline types (Section 210), and the two must be combined to identify the Program's policies for a specific coastal site.



## Appendix 5-2

### Review Categories in the 200-ft Area Contiguous to Shoreline Features (CRIR 04 000 010(110) (Table 1A))

Alteration or Activity	Review Category
Filling, Removal, and Grading of Shoreline Features	A/B <sup>1</sup>
Residential Structures	A <sup>2</sup>
Commercial/Industrial Structures	A/B <sup>3</sup>
Recreational Structures	A/B <sup>3</sup>
Municipal Sewage Treatment Facilities	A/B <sup>3</sup>
Individual Sewage Disposal Systems	A
Point Discharges - Runoff	A
Point Discharges - Other	B
Structural Shoreline Protection	B
Nonstructural Shoreline Protection	A
Upland Dredged Material Disposal	B
Energy-Related Structures	B
Mining	B
Construction of Public Roads, Bridges, Parking Lots, Railroad Lines, and Airports	B
Associated Residential Structures	A/F <sup>4</sup>

<sup>1</sup> See Section 300.2(A)2 for differentiation between Category A and B reviews.

<sup>2</sup> See Section 320.D.2.

<sup>3</sup> For commercial and industrial structures, recreational structures, and municipal sewage treatment facilities, a Category "A" review may be permitted provided that the Executive Director determines that:

1. All criteria in Section 110.1A are met.
2. The proposed activity is determined to be a minor alteration with respect to potential impacts to the waterway, coastal feature, and in areas within RICRMP jurisdiction.
3. The proposed activity conforms with any and all applicable adopted CRMC special area management plans.
4. The proposed activity will not significantly conflict with existing uses and activities in the waterway, an the coastal feature, and in areas within RICRMP jurisdiction.
5. The proposed activity does not represent new development of a site within RICRMP jurisdiction along type 1, 2, or 4 waterway.

<sup>4</sup> F -- Finding of no significant impact.

**Note:** Setbacks from buffers and/or critical erosion areas as required in this program or any Special Area Management Plan are to be applied to these activities.



### Appendix 5-3

#### Review Categories for Inland Activities (CRIR 04 000 010(110) (Table 1B))

Alteration or Activity	Review Category
<b>Statewide</b>	
Power-generating plants (excluding facilities of less than a 40-MW capacity)	<i>B</i>
Petroleum storage facilities (excluding those of less than 2400-bbl capacity)	<i>B</i>
Chemical or petroleum processing facility	<i>B</i>
Minerals extraction	<i>B</i>
Sewage treatment and disposal facilities (excluding individual sewage disposal systems)	<i>B</i>
Solid waste disposal facilities	<i>B</i>
Desalination plants	<i>B</i>
<b>Extending Onto Coastal Feature or Contiguous Area</b>	
Subdivision, cooperative, or other multiownership facility	<i>A/B</i> <sup>1</sup>
40,000 ft <sup>2</sup> of impervious surface	<i>A/B</i> <sup>2</sup>
<b>Critical Coastal Areas</b>	
Subdivision, cooperative, or other multi-ownership facility	<i>A/B</i> <sup>1</sup>
20,000 ft <sup>2</sup> of impervious surface	<i>A/B</i> <sup>2</sup>
Onsite sewage disposal system serving more than 2000 gal/day	<i>A/B</i> <sup>2</sup>
Extension of municipal or industrial treatment facilities or sewer lines	<i>B</i>
Water distribution systems or the extension of supply lines	<i>A/B</i> <sup>2</sup>

<sup>1</sup> For residential subdivisions a Category "A" review may be permitted provided that the proposed subdivision is less than six units.

<sup>2</sup> Determined based on the application of other requirements (e.g., Appendix 5-4 or 5-2) or at the discretion of the Executive Director.



# Appendix 5-4

## Review Categories and Prohibited Activities in Tidal Waters and on Adjacent Shoreline Features (CRIR 04 000 010(110) (Table 1))

(NOTE: Tidal waters and coastal ponds have been assigned to one of six use categories (see Appendix 5-1).)

Review categories for activities within the 200-ft area contiguous to shoreline features are listed in Appendix 5-2. All Category B activities and starred (\*) Category A activities are put out to public notice.

Letter codes are as follows:

A -- Category A assent required.

B -- Category B assent required.

P -- Prohibited.

NA -- Not applicable.

	Tidal Water	Beache s and Dunes	Unde- velope d Barrie rs	Moder -ately Develo ped Barrie rs	Develo ped Barrie rs	Coasta l Wet- lands	Head- lands, Bluffs, and Cliffs	Rocky Shores	Man- made Shore- lines	Areas of Historic/ Archeo- logical Signifi- cance
<b>Type 1 Waters</b>										
Filling, Removal, and Grading of Shoreline Features	NA	P	P	A1	A1	P	P	P	A1	B
Residential Structures	P	P	P	P	A	P	P	P	P	B
Commercial/Industrial Structures	P	P	P	P	B	P	P	P	P	P
Recreational Structures	P	P	P	P	B	P	P	P	B	B
Recreational Mooring Areas	P	NA	NA	NA	NA	NA	NA	NA	NA	NA
Marinas	P	P	P	P	P	P	P	P	P	P
Launching Ramps*	P	P	P	P	P	P	P	P	P	P
Residential Docks, *Piers, & *Floats	P	P	P	P	P	P	P	P	P	P
Mooring of Houseboats	P	NA	NA	NA	NA	P	NA	NA	NA	NA
Mooring of Floating Businesses	P	NA	NA	NA	NA	P	NA	NA	NA	NA
Municipal Sewage Treatment Facilities	P	P	P	P2	B	P	P	P	P	B
Individual Sewage Disposal Systems	P	P	P	P	A	P	P	P	P	B
Point Discharges - Runoff	B	A	A	A	A	A	A	A	A	A
Point Discharges - Other	P	P	P	P	B	P	P	P	P	B
Nonstructural Shoreline Protection	A	A	A	A	A	A	A	A	A	A
Structural Shoreline Protection	P	P	P	P	P	P	P	P	B	B8
Energy-Related Activities/Structures	P	P	P	P3	B	P	P	P	B	B
Dredging - Improvement	P	NA	NA	NA	NA	P	NA	NA	NA	NA
Dredging - Maintenance	P	NA	NA	NA	NA	P	NA	NA	NA	NA
Open-Water Dredged Material Disposal	P	NA	NA	NA	NA	P	NA	NA	NA	NA
Upland Dredged Material Disposal	NA	P	B	B	B	P	P	P	B	B
Beach Nourishment	B	B	B	B	B	P	NA	NA	NA	B
Filling in Tidal Waters	P	NA	NA	NA	NA	P	NA	NA	NA	NA
Aquaculture	B	NA	NA	NA	NA	P	NA	NA	NA	NA
Mosquito Control Ditching	A	NA	NA	NA	NA	A	NA	NA	NA	A
Mining	P	P	P	P	P	P	P	P	P	P
Construction of Public Roads, Bridges,	P	P	P	P	B	P	P	P	B	B

	Tidal Water	Beaches and Dunes	Undeveloped Barriers	Mod-ately Developed Barriers	Developed Barriers	Coastal Wetlands	Headlands, Bluffs, and Cliffs	Rocky Shores	Man-made Shorelines	Areas of Historic/ Archeological Significance
Parking Lots, Railroad Lines, Airports										
<b>Type 2 Waters</b>										
Filling, Removal, and Grading of Shoreline Features	NA	P	P	A1	A1	P	P	P	A1	B
Residential Structures	P	P	P	P	A	P	P	P	A	B
Commercial/Industrial Structures	P	P	P	P	B	P	P	P	B	P
Recreational Structures	P	P	P	P	B	P	P	P	B	B
Recreational Mooring Areas	B	NA	NA	NA	NA	NA	NA	NA	NA	NA
Marinas	P6	P	P	P	P	P	P	P	P	P
Launching Ramps*	B	B	B	P	B	B	P	B	B	B
Residential Docks, *Piers, & *Floats	A/ B5	B	P	P	B	B	B	B	B	B
Mooring of Houseboats	P	NA	NA	NA	NA	P	NA	NA	NA	NA
Mooring of Floating Businesses	P	NA	NA	NA	NA	P	NA	NA	NA	NA
Municipal Sewage Treatment Facilities	P	P	P	P2	B	P	P	B	B	B
Individual Sewage Disposal Systems	P	P	P	P	A	P	P	P	P	B
Point Discharges - Runoff	A	A	A	A	A	A	A	A	A	A
Point Discharges - Other	B	P	P	P	B	P	P	P	P	B
Nonstructural Shoreline Protection	A	A	A	A	A	A	A	A	A	A
Structural Shoreline Protection	B6	B	P	P	P	P	B	B	B	B
Energy-Related Activities/Structures	B	P	P	P3	B	P	P	P	B	B
Dredging - Improvement	P	NA	NA	NA	NA	P	NA	NA	NA	NA
Dredging - Maintenance	P	NA	NA	NA	NA	P	NA	NA	NA	NA
Open-Water Dredged Material Disposal	A/ B7	NA	NA	NA	NA	P	NA	NA	NA	NA
Upland Dredged Material Disposal	NA	P	B	B	B	P	P	B	B	B
Beach Nourishment	B	B	B	B	B	P	NA	NA	NA	B
Filling in Tidal Waters	P6	NA	NA	NA	NA	P	NA	NA	NA	NA
Aquaculture	B	NA	NA	NA	NA	P	NA	NA	NA	NA
Mosquito Control Ditching	A	NA	NA	NA	NA	A	NA	NA	NA	B
Mining	P	P	P	P	P	P	P	P	P	P
Construction of Public Roads, Bridges, Parking Lots, Railroad Lines, Airports	B	P	P	P	B	P	P	P	B	B
<b>Type 3 Waters</b>										
Filling, Removal, and Grading of Shoreline Features	NA	B	P	A1	A1	P	P	B	A1	B
Residential Structures	P	P	P	P	A	P	P	P	A	B
Commercial/Industrial Structures	B	B	P	P	B	P	B	B	B	B
Recreational Structures	B	B	P	P	B	P	B	B	B	B
Recreational Mooring Areas	B	NA	NA	NA	NA	NA	NA	NA	NA	NA
Marinas	B	B	P	P	B	P	B	B	B	B
Launching Ramps*	B	B	P	B	B	P	B	B	B	B
Residential Docks, *Piers, & *Floats	A/ B5	A	P	P	A	A	A	A	A	B
Mooring of Houseboats	B	NA	NA	NA	NA	P	NA	NA	NA	NA
Mooring of Floating Businesses	P	NA	NA	NA	NA	P	NA	NA	NA	NA

	Tidal Water	Beaches and Dunes	Unde- velope d Barrie rs	Moder- ately Develo p-ed Barrie rs	Develo ped Barrie rs	Coasta l Wet- lands	Head- lands, Bluffs, and Cliffs	Rocky Shores	Man- made Shore- lines	Areas of Historic/ Archeo- logical Signifi- cance
Municipal Sewage Treatment Facilities	P	P	P	P2	B	P	P	B	B	B
Individual Sewage Disposal Systems	P	P	P	P	A	P	P	P	B	B
Point Discharges - Runoff	A	A	A	A	A	A	A	A	A	A
Point Discharges - Other	B	B	P	B	B	P	P	P	B	B
Nonstructural Shoreline Protection	A	A	A	A	A	A	A	A	A	A
Structural Shoreline Protection	B	B	P	P	P	P	B	B	B	B
Energy-Related Activities/Structures	B	P	P	P3	B	P	B	B	B	B
Dredging - Improvement	B	NA	NA	NA	NA	P	NA	NA	NA	NA
Dredging - Maintenance	A	NA	NA	NA	NA	P	NA	NA	NA	NA
Open-Water Dredged Material Disposal	B	NA	NA	NA	NA	P	NA	NA	NA	NA
Upland Dredged Material Disposal	NA	B	B	B	B	P	B	B	B	B
Beach Nourishment	B	B	B	B	B	P	NA	NA	NA	B
Filling in Tidal Waters	B	NA	NA	NA	NA	P	NA	NA	NA	NA
Aquaculture	B	NA	NA	NA	NA	P	NA	NA	NA	NA
Mosquito Control Ditching	A	NA	NA	NA	NA	A	NA	NA	NA	B
Mining	P	P	P	P	P	P	P	P	P	P
Construction of Public Roads, Bridges, Parking Lots, Railroad Lines, Airports	B	P	P	P	B	P	B	B	B	B

#### Type 4 Waters

Filling, Removal, and Grading of Shoreline Features	NA	B	P	A1	A1	P	B	B	A1	B
Residential Structures	P	P	P	P	A	P	P	P	A	B
Commercial/Industrial Structures	B	B	P	P	B	P	B	B	B	B
Recreational Structures	B	NA	NA	NA	NA	NA	NA	NA	NA	NA
Recreational Mooring Areas	B	B	P	P	B	P	B	B	B	B
Marinas	B	B	P	B	B	P	B	B	B	B
Launching Ramps*	B	B	P	B	B	P	B	B	B	B
Residential Docks, *Piers, & *Floats	A/ B5	A	P	P	A	A	A	A	A	B
Mooring of Houseboats	B	NA	NA	NA	NA	P	NA	NA	NA	NA
Mooring of Floating Businesses	B	NA	NA	NA	NA	P	NA	NA	NA	NA
Municipal Sewage Treatment Facilities	B	B	P	P2	B	P	B	B	B	B
Individual Sewage Disposal Systems	P	P	P	P	A	P	P	P	A	B
Point Discharges - Runoff	A	A	A	A	A	A	A	A	A	A
Point Discharges - Other	B	B	P	B	B	P	B	B	B	B
Nonstructural Shoreline Protection	A	A	A	A	A	A	A	A	A	A
Structural Shoreline Protection	B	B	P	P	P	P	B	B	B	B
Energy-Related Activities/Structures	B	B	P	P3	B	P	B	B	B	B
Dredging - Improvement	B	NA	NA	NA	NA	P	NA	NA	NA	NA
Dredging - Maintenance	A	NA	NA	NA	NA	P	NA	NA	NA	NA
Open-Water Dredged Material Disposal	B	NA	NA	NA	NA	P	NA	NA	NA	NA
Upland Dredged Material Disposal	NA	B	B	B	B	P	B	B	B	B
Beach Nourishment	B	B	B	B	B	P	NA	NA	NA	B
Filling in Tidal Waters	B	NA	NA	NA	NA	P	NA	NA	NA	NA
Aquaculture	B	NA	NA	NA	NA	P	NA	NA	NA	NA

	Tidal Water	Beaches and Dunes	Undeveloped Barriers	Mod-ately Developed Barriers	Developed Barriers	Coastal Wetlands	Headlands, Bluffs, and Cliffs	Rocky Shores	Man-made Shorelines	Areas of Historic/ Archeological Significance
Mosquito Control Ditching	A	NA	NA	NA	NA	A	NA	NA	NA	B
Mining	P	P	P	P	P	P	P	P	P	P
Construction of Public Roads, Bridges, Parking Lots, Railroad Lines, Airports	B	B	P	P	B	P	B	B	B	B
<b>Type 5 Waters</b>										
Filling, Removal, and Grading of Shoreline Features	NA	B	P	A1	A1	P	B	B	A1	B
Residential Structures	P	P	P	P	A	P	B	B	A	B
Commercial/Industrial Structures	B	B	P	P	B	P	B	B	B	B
Recreational Structures	B	B	P	P	B	P	B	B	B	B
Recreational Mooring Areas	B	NA	NA	NA	NA	NA	NA	NA	NA	NA
Marinas	B	B	P	P	B	P	B	B	B	B
Launching Ramps*	B	B	P	B	B	P	B	B	B	B
Residential Docks, *Piers, & *Floats	A/ B5	A	P	P	A	A	A	A	A	B
Mooring of Houseboats	B	NA	NA	NA	NA	P	NA	NA	NA	NA
Mooring of Floating Businesses	B	NA	NA	NA	NA	P	NA	NA	NA	NA
Municipal Sewage Treatment Facilities	P	B	P	P2	B	P	B	B	B	B
Individual Sewage Disposal Systems	P	P	P	P	A	P	B	B	A	B
Point Discharges - Runoff	A	A	A	A	A	A	A	A	A	A
Point Discharges - Other	B	B	P	B	B	P	B	B	B	B
Nonstructural Shoreline Protection	A	A	A	A	A	A	A	A	A	A
Structural Shoreline Protection	B	B	P	P	P	P	B	B	B	B
Energy-Related Activities/Structures	B	P	P	P3	B	P	B	B	B	B
Dredging - Improvement	B	NA	NA	NA	NA	P	NA	NA	NA	NA
Dredging - Maintenance	A	NA	NA	NA	NA	P	NA	NA	NA	NA
Open-Water Dredged Material Disposal	B	NA	NA	NA	NA	P	NA	NA	NA	NA
Upland Dredged Material Disposal	NA	B	B	B	B	P	B	B	B	B
Beach Nourishment	B	NA	NA	NA	NA	P	NA	NA	NA	NA
Filling in Tidal Waters	B	NA	NA	NA	NA	P	NA	NA	NA	NA
Aquaculture	B	NA	NA	NA	NA	P	NA	NA	NA	NA
Mosquito Control Ditching	A	NA	NA	NA	NA	A	NA	NA	NA	B
Mining	P	P	P	P	P	P	P	P	P	P
Construction of Public Roads, Bridges, Parking Lots, Railroad Lines, Airports	B	B	P	P	B	P	B	B	B	B
<b>Type 6 Waters</b>										
Filling, Removal, and Grading of Shoreline Features	NA	B	P	A1	A1	P	B	B	A1	B
Residential Structures	P	P		P	A	P	B	B	A	B
Commercial/Industrial Structures	B	B		P	B	P	B	B	B	B
Recreational Structures	B	B		P	B	P	B	B	B	B
Recreational Mooring Areas	B	NA		NA	NA	NA	NA	NA	NA	NA
Marinas	B	B	P	P	B	P	B	B	B	B
Launching Ramps*	B	B	P	B	B	P	B	B	B	B

	Tidal Water	Beaches and Dunes	Unde- velope d Barrie rs	Mod- erately Develo ped Barrie rs	Develo ped Barrie rs	Coasta l Wet- lands	Head- lands, Bluffs, and Cliffs	Rocky Shores	Man- made Shore- lines	Areas of Historic/ Archeo- logical Signifi- cance
Residential Docks, *Piers, & *Floats	A/ B5	B	P	P	B	B	B	B	B	B
Mooring of Houseboats	B	NA	NA	NA	NA	P	NA	NA	NA	NA
Mooring of Floating Businesses	B	NA	NA	NA	NA	P	NA	NA	NA	NA
Municipal Sewage Treatment Facilities	B	B	P	P2	B	P	B	B	B	B
Individual Sewage Disposal Systems	P	P	P	P	A	P	B	B	A	B
Point Discharges - Runoff	A	A	A	A	A	A	A	A	A	A
Point Discharges - Other	B	B	P	B	B	P	B	B	B	B
Nonstructural Shoreline Protection	A	A	A	A	A	A	A	A	A	A
Structural Shoreline Protection	B	B	P	P	P	P	B	B	B	B
Energy-Related Activities/Structures	B	B	P	P3	B	P	B	B	B	B
Dredging - Improvement	B	NA	NA	NA	NA	P	NA	NA	NA	NA
Dredging - Maintenance	A	NA	NA	NA	NA	P	NA	NA	NA	NA
Open-Water Dredged Material Disposal	B	NA	NA	NA	NA	P	NA	NA	NA	NA
Upland Dredged Material Disposal	NA	B	B	B	B	P	B	B	B	B
Beach Nourishment	B	B	B	B	B	P	NA	NA	NA	B
Filling in Tidal Waters	B	NA	NA	NA	NA	P	NA	NA	NA	NA
Aquaculture	B	NA	NA	NA	NA	P	NA	NA	NA	NA
Mosquito Control Ditching	A	NA	NA	NA	NA	A	NA	NA	NA	B
Mining	P	P	P	P	P	P	P	P	P	P
Construction of Public Roads, Bridges, Parking Lots, Railroad Lines, Airports	B	B	P	P	B	P	B	B	B	B

#### Notes

<sup>1</sup> See definitions in Section 300.2(A) for differentiation between Category A and B reviews.

<sup>2</sup> Municipal sewer lines are reviewed as Category B.

<sup>3</sup> Utility lines are reviewed as Category B.

<sup>4</sup> See Section 210.3(C)6: the review categories shown here for Type 3, 4, 5, and 6 waters apply to wetlands designated for preservation.

<sup>5</sup> For residential docks, piers, floats see Section 300.4.C.4 for review procedures.

<sup>6</sup> See Section 200.2.C.2 for preexisting marinas in Type 2 waters.

<sup>7</sup> Category A review for preexisting marinas in Type 2 waters (see Section 300.9.A.1); Category B review for residential boating facilities in Type 2 waters (see Section 300.9.E.7).

<sup>8</sup> Structural shoreline protection facilities may only be permitted to protect historic structures which are currently listed in the National Register of Historic Places. Additionally, the proposal must meet all applicable standards contained within in Section 300.7.

## Appendix 5-5

### State Endangered Species in Rhode Island (Source: Rhode Island Natural Heritage Program and Rhode Island Endangered Species Program, May 1992)

#### Endangered Plant Species

Scientific Name	Common Name	Number of Extant Sites
<i>Lycopodium alopecuroides</i>	Foxtail Clubmoss	1
<i>Lycopodium annotinum</i>	Stiff Clubmoss	1
<i>Ophioglossum vulgatum</i>	Adder's-tongue	1
<i>Asplenium montanum</i>	Mountain Spleenwort	1
<i>Asplenium rhizophyllum</i>	Walking Fern	1
<i>Pellaea atropurpurea</i>	Purple Cliff-brake	1
<i>Scheuchzeria palustris</i> ssp. <i>americana</i>	Pod-grass	1
<i>Sagittaria teres</i>	Slender Arrowhead	3
<i>Carex collinsii</i>	Collins' Sedge	1
<i>Carex polymorpha</i>	Variable Sedge	1
<i>Carex walteriana</i> var. <i>brevis</i>	Walter's Sedge	1
<i>Eleocharis melanocarpa</i>	Black-fruited Spike-rush	1
<i>Eleocharis tricostrata</i>	Three-angled Spike-rush	1
<i>Fuirena pumila</i>	Umbrella Grass	2
<i>Psilocarya scirpoides</i>	Long-beaked Bald Rush	2
<i>Rhynchospora inundata</i>	Inundated Horned Rush	4
<i>Rhynchospora torreyana</i>	Torrey's Beaked Rush	2
<i>Scirpus etuberculatus</i>	Untubercled Bulrush	1
<i>Scirpus longii</i>	Long's Bulrush	1
<i>Scleria pauciflora</i>	Few-flowered Nut-rush	2
<i>Scleria triglomerata</i>	Tall Nut-rush	1
<i>Orontium aquaticum</i>	Golden Club	1
<i>Galearis spectabilis</i>	Showy Orchis	1
<i>Malaxis unifolia</i>	Green Adder's Mouth	1
<i>Platanthera ciliaris</i>	Yellow Fringed Orchid	1
<i>Platanthera flava</i> var. <i>herbiola</i>	Pale Green Orchid	3
<i>Platanthera hookeri</i>	Hooker's Orchid	1
<i>Spiranthes tuberosa</i>	Little Ladies'-tresses	1
<i>Saururus cernuus</i>	Lizard's-tail	1
<i>Arceuthobium pusillum</i>	Dwarf Mistletoe	1
<i>Minuartia glabra</i>	Smooth Sandwort	2
<i>Minuartia michauxii</i>	Rock Sandwort	2
<i>Clematis occidentalis</i>	Purple Clematis	1
<i>Adlumia fungosa</i>	Climbing Fumatory	2
<i>Cardamine longii</i>	Long's Bitter Cress	1
<i>Drosera filiformis</i>	Thread-leaved Sundew	1
<i>Dalibarda repens</i>	Dewdrop	1
<i>Sanguisorba canadensis</i>	Canadian Burnet	1
<i>Desmodium sessilifolium</i>	Sessile-leaved Tick-trefoil	1
<i>Linum intercursum</i>	Sandplain Flax	1

Scientific Name	Common Name	Number of Extant Sites
<i>Linum sulcatum</i>	Grooved Flax	1
<i>Helianthemum dumosum</i>	Bushy Rockrose	5
<i>Rotala ramosior</i>	Toothcup	1
<i>Ludwigia sphaerocarpa</i>	Round-fruited False Loosestrife	1
<i>Andromeda polifolia</i>	Bog Rosemary	1
<i>Sabatia kennedyana</i>	Plymouth Gentian	3
<i>Stachys hyssopifolia</i>	Hyssop-leaved Hedge-nettle	2
<i>Hedyotis longifolia</i>	Long-leaved Bluets	1
<i>Eupatorium leucolepis</i> var. <i>novae-angliae</i>	New England Boneset	5
<i>Liatris scariosa</i> var. <i>nieuwlandii</i>	Northern Blazing Star	4
<i>Sclerolepis uniflora</i>	Sclerolepis	1

#### Endangered Invertebrate Animals

Scientific Name	Common Name
<i>Williamsonia lintneri</i>	Banded Bog Skimmer Dragonfly
<i>Speyeria idalia</i>	Regal Fritillary Butterfly

#### Endangered Vertebrate Animals

Scientific Name	Common Name
<i>Botaurus lentiginosus</i>	American Bittern
<i>Bartramia longicauda</i>	Upland Sandpiper
<i>Circus cyaneus</i>	Northern Harrier
<i>Dendroica caerulescens</i>	Black-throated Blue Warbler
<i>Icteria virens</i>	Yellow-breasted Chat



## **SECTION 6**

### **OTHER ENVIRONMENTAL ISSUES**

**Rhode Island Supplement, March 1998**

This section covers the state requirements for Other Environmental Issues and is intended to supplement the U.S. TEAM Guide. Refer to the U.S. TEAM Guide and the DOD Component Supplements for Federal, DOD, and service-specific requirements.

#### **Definition**

- *DbA* - decibels measured with a calibrated sound level meter weighted to the "A" scale (General Laws of Rhode Island 31-45-1).



**OTHER ENVIRONMENTAL ISSUES  
GUIDANCE FOR RHODE ISLAND CHECKLIST USERS**

**REFER TO CHECKLIST ITEMS:**

**The NEPA Process**

Refer to the U.S. TEAM Guide and the DOD Component Supplements for Federal, DOD, and service-specific requirements.

**Environmental Noise**

State-Specific Requirements

O2.5.1.RI.

**IRP**

Refer to the U.S. TEAM Guide and the DOD Component Supplements for Federal, DOD, and service-specific requirements.

**Pollution Prevention**

Refer to the U.S. TEAM Guide and the DOD Component Supplements for DOD and service-specific requirements.

**Program Management**

Refer to the U.S. TEAM Guide and the DOD Component Supplements for DOD and service-specific requirements.



<b>COMPLIANCE CATEGORY:</b> <b>OTHER ENVIRONMENTAL ISSUES</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<b>ENVIRONMENTAL NOISE</b>  <b>O2.5.</b> <b>State-Specific Requirements</b>  <b>O2.5.1.RI.</b> Motor vehicles must comply with specific noise limitations (General Laws of Rhode Island 31-45-1).	<p>Verify that, at speeds of 35 mi/h or less, not more than 86 DbA are recorded.</p> <p>Verify that, at speeds of more than 35 mi/h, not more than 90 DbA are recorded.</p>



## SECTION 7

### PESTICIDE MANAGEMENT

Rhode Island Supplement, March 1998

This section covers the state requirements for Pesticide Management and is intended to supplement the U.S. TEAM Guide. Refer to the U.S. TEAM Guide and the DOD Component Supplements for Federal, DOD, and service-specific requirements.

#### Definitions

- *Applicator* - the individual or company providing lawn care services (Code of Rhode Island Rules) CRIR 12 020 013 (Rule T)).
- *End Use Product* - the pesticide(s) as applied and not the concentrate (CRIR 12 020 013 (Rule T)).
- *Homeowner* - the owner or occupant of a private single family residence or the manager or a multi-unit dwelling (CRIR 12 020 013 (Rule T)).
- *Immediate Service Call* - includes (CRIR 12 020 013 (Rule T)):
  1. customer complaints
  2. lawn threatening pests -- but not regularly scheduled treatments.
- *Public Recreational Facilities* - golf courses, playgrounds, athletic facilities, schoolgrounds, and parks (CRIR 12 020 013 (Rule T)).
- *RIPCA* - Chapters 23 - 25 of the General Laws entitled the Rhode Island Pesticide Control Act of 1976 (CRIR 12 020 013 (Rule R)).
- *Use of A Pesticide* - any act of handling or release of a pesticide or the exposure of man or the environment to a pesticide, but excluding normal handling associated with pesticide distribution, through acts including but not limited to (CRIR 12 020 013 (Rule R)):
  1. application of a pesticide including mixing or loading of equipment and any required supervisory action in or near the area of application
  2. storage actions for pesticides and pesticide containers
  3. disposal actions for pesticides and pesticide containers.



**PESTICIDE MANAGEMENT  
GUIDANCE FOR RHODE ISLAND CHECKLIST USERS**

**REFER TO CHECKLIST ITEMS:**

Pesticide Applicators	PM.5.1.RI. through PM.5.7.RI.
Pesticide Application	
Equipment	PM.15.1.RI. and PM.15.2.RI.
Agriculture	PM.20.1.RI.
Aerial	PM.25.1.RI.
Landscape	PM.30.1.RI. and PM.30.2.RI.
Other	PM.35.1.RI. through PM.35.3.RI.
Documentation	PM.40.1.RI. and PM.40.2.RI.
Storage, Mixing, Preparation	PM.45.1.RI. through PM.45.3.RI.

**GUIDANCE FOR APPENDIX USERS**

**REFER TO APPENDIX NUMBERS:**

**REFER TO APPENDIX TITLES:**

7-1

Rhode Island Categories for Commercial Applicators



<b>COMPLIANCE CATEGORY:</b> <b>PESTICIDE MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<b>PM.5. PESTICIDE APPLICATORS</b>	<p>(NOTE Any pesticide which is classified for restricted use by USEPA, as published in the Federal Register, is a restricted-use pesticide under the Rhode Island Pesticide Control Act (see Appendix 7-1 in the U. S. TEAM Guide). Products containing chlordane, Alar, and tributyltin are classified for state limited-use (see PM.5.6.RI. and PM.5.7.RI.) (CRIR 12 020 013 Rule A).)</p>
<b>PM.5.1.RI.</b> Commercial applicators must be certified and licensed (CRIR 12 020 013 (Rule D)(1) and (Rule M)(1)) [Revised March 1998].	<p>Verify that any person applying a restricted-use or state limited-use pesticide as a commercial applicator either possesses a valid commercial applicator certificate issued by the Director, or is under direct supervision of an appropriately certified commercial applicator.</p> <p>Verify that any person applying pesticides, other than restricted-use or state limited-use pesticides, as a commercial applicator, possesses a valid commercial applicator license.</p>
<b>PM.5.2.RI.</b> Private applicators must be certified (CRIR 12 020 013 (Rule G)(1)).	<p>Verify that each person engaged in the application of any restricted-use or state limited-use pesticide as a private applicator either:</p> <ul style="list-style-type: none"> <li>- possesses a valid private applicator certificate issued by the Director</li> <li>- is under the direct supervision of an appropriately certified applicator.</li> </ul>
<b>PM.5.3.RI.</b> Supervision of noncertified applicators, both private and commercial, must comply with specific requirements (CRIR 12 020 013 (Rule S)(1) and (2)).	<p>Verify that certified applicators acting in a supervisory role demonstrate a practical knowledge of Federal and state supervisory requirements, including labeling, regarding the application of restricted-use pesticides by noncertified applicators.</p> <p>Verify that the availability of certified applicators is directly related to the hazard of the situation.</p> <p>Verify that a certified applicator is physically present when application is made by a noncertified applicator, if the labeling of the pesticide requires.</p> <p>Verify that, in situations where the certified applicator is not required to be physically present, direct supervision includes the following instruction to the competent person:</p> <ul style="list-style-type: none"> <li>- detailed guidance for applying the pesticide properly</li> <li>- provisions for contacting the certified applicator in the event he is needed.</li> </ul> <p>Verify that an applicator certified in termite and structural pest control (see Appendix 7-1) is physically present when sub-surface application of the following</p>

<b>COMPLIANCE CATEGORY: PESTICIDE MANAGEMENT Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>PM.5.4.RI.</b> Certified applicators must have identification papers (CRIR 12 020 013 (Rule K)(1), (2), and (3)).</p>	<p>termiticides are made by any non-certified applicator:</p> <ul style="list-style-type: none"> <li>- cyclodienes -- including but not limited to chlordane, aldrin, dieldrin, and heptachlor</li> <li>- organo-phosphates -- including but not limited to chlorpyrifos.</li> </ul> <p>(NOTE: Two types of certification documents are issued to commercial and private applicators, which include the following information:</p> <ul style="list-style-type: none"> <li>- certified commercial applicators: <ul style="list-style-type: none"> <li>- full size document: applicator's name, address, certification number, expiration date, categories of certification, and applicator's signature</li> <li>- wallet size document: same information as in full size document plus applicator's photograph</li> </ul> </li> <li>- certified private applicators: <ul style="list-style-type: none"> <li>- full size document: applicator's name, address, certification number, expiration date, limitations, and applicator's signature</li> <li>- wallet size document: same information as in full size document plus applicator's photograph.)</li> </ul> </li> </ul> <p>Verify that the wallet size document is on the applicator's person at all times when he is using a restricted-use or state limited-use pesticide.</p> <p>Verify that the wallet size certification document is used by the applicator as a means of identification for his purchase of restricted-use or state limited-use pesticides.</p>
<p><b>PM.5.5.RI.</b> Applicators must be licensed in the category of pesticide application they perform (CRIR 12 20 013 (Rule C)).</p>	<p>Verify that every commercial applicator who uses or supervises the use of a restricted use or state limited-use pesticide is certified for that category and sub-category of application (see Appendix 7-1.)</p>
<p><b>PM.5.6.RI.</b> State limited use pesticides must meet specific requirements (CRIR 12 020 013 (Rule A)(2)(a) and (b)).</p>	<p>(NOTE: See PM.40.1.RI for recordkeeping requirements for chlordane.)</p> <p>Verify that products containing chlordane:</p> <ul style="list-style-type: none"> <li>- are not distributed in containers of less than 1 gal</li> <li>- are distributed only by persons licensed as a pesticide dealer</li> <li>- are distributed to and used only by certified applicators, or persons under the direct supervision of a certified applicator.</li> </ul> <p>(NOTE: The registration of products containing Alar (daminozide) will be</p>

<b>COMPLIANCE CATEGORY:</b> <b>PESTICIDE MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<p>PM.5.7.RI. The use and distribution of marine antifoulant paints containing tributyltin must meet specific restrictions (Rules and Regulations Relating to Marine Antifoulant Paints Containing Tributyltin) [Added March 1998].</p>	<p>classified for State Limited Use effective 15 May 1986.)</p> <p>(NOTE: This rule has been adopted pursuant to Title 42, Chapter 35, and Title 23, Chapter 25 of the General Laws of Rhode Island as Rule A(3), but has not yet been codified in the Code of Rhode Island Rules. The registration of marine antifoulant paints containing tributyltin was classified for State Limited Use effective 1 July 1988.)</p> <p>Verify that the installation/CW facility does not distribute, possess, sell, or apply any marine antifoulant paint containing tributyltin compounds, except as specifically authorized.</p> <p>(NOTE: Authorized personnel of the Department of Environmental Management, Department of the Attorney General, and the Division of State Police may seize any antifoulant paint held in violation of this chapter and any seized substances will be considered forfeited.)</p> <p>Verify that a marine antifoulant paint containing tributyltin with an acceptable release rate is:</p> <ul style="list-style-type: none"> <li>- sold or distributed to the owner or agent of a commercial boat yard only if the paint is applied only within a commercial boat yard, and: <ul style="list-style-type: none"> <li>- only a vessels which exceed sixty-five feet in length or which have aluminum hulls, or</li> <li>- to vessels less than sixty-five ft in length if it is applied only to the outboard or lower drive unit of such vessels; or</li> </ul> </li> <li>- sold or applied only if the paint is distributed or sold in a spray can in a quantity of sixteen ounces avoirdupois or less and is commonly referred to as outboard or lower unit paint.</li> </ul> <p>Verify that during and after paint removal or application of new antifouling paint containing tributyltin, methods are employed to prevent introduction of tributyltin paints into the aquatic environment.</p> <p>Verify that following removal of tributyltin paint or application of new tributyltin paint, all paint chips and spent abrasives, paint containers, unused paint, and any other waste products from paint removal or application are disposed of in a sanitary landfill.</p>



COMPLIANCE CATEGORY: PESTICIDE MANAGEMENT Rhode Island Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 1998
<b>PESTICIDE APPLICATION</b>  <b>PM.15. Equipment</b>  <b>PM.15.1.RI.</b> Certain pesticide application equipment must have antisiphon devices (CRIR 12 020 013 (Rule O)(1)).  <b>PM.15.2.RI.</b> Pesticide applicators using power equipment must ensure that winds do not cause contamination of nontarget areas (CRIR 12 020 013 (Rule O)(10)).	<p>Verify that pest control equipment using pesticides and drawing water from the surface waters of the state have an effective antisiphon device approved by the Director to prevent back flow.</p> <p>Verify that application of pesticides by mechanically powered equipment is not made at times when the wind velocity will cause a hazardous chemical to drift beyond the target area.</p>



COMPLIANCE CATEGORY: PESTICIDE MANAGEMENT Rhode Island Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 1998
<b>PESTICIDE APPLICATION</b>  <b>PM.20. Agriculture</b>  <b>PM.20.1.RI.</b> Contamination of nontarget lands from pesticide applications must be avoided (CRIR 12 020 013 (Rule O)(6) and (7)).	Verify that pesticide applications for agricultural purposes are done in a way that avoids contamination of adjacent lands, crops, and pasturage.



COMPLIANCE CATEGORY: PESTICIDE MANAGEMENT Rhode Island Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 1998
<b>PESTICIDE APPLICATION</b>  <b>PM.25.</b> <b>Aerial</b>  <b>PM.25.1.RI.</b> Prior approval is required for aerial pesticide applications (CRIR 12 020 013 (Rule O)(9)).	Verify that no application of pesticides by aircraft is made without prior approval of the Director or his designated representative.



<b>COMPLIANCE CATEGORY:</b> <b>PESTICIDE MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<b>PESTICIDE APPLICATION</b>  <b>PM.30.</b> <b>Landscape</b>  <b>PM.30.1.RI.</b> Pesticide applications for control of lawn and turf pests must meet specific requirements (CRIR 12 020 013 (Rule T)(2) through (8)) [Citation Revised March 1998].	<p>Verify that, after entering into or renewing an agreement to apply pesticides to control lawn or turf pests, and prior to the initial application of such pesticides, the applicator:</p> <ul style="list-style-type: none"> <li>- provides the homeowner with a list of pesticides which may be used, including:               <ul style="list-style-type: none"> <li>- common and most likely trade name of each pesticide</li> <li>- any postapplication safety, environment or health instructions specified on the label for the end use product</li> </ul> </li> <li>- informs the homeowner in writing that they may request a copy of the label, and/or the material data sheet, and/or the EPA Fact Sheet, if available, on any pesticide which may be used.</li> </ul> <p>Verify that, after entering into or renewing an agreement to apply pesticides to control lawn or turf pests, 48 h advance notice is provided by the applicator to any contiguous neighbor who requests it.</p> <p>Verify that, in cases where notice by telephone, mail, or in person cannot be given 48 h before the application of pesticides, the applicator leaves written notice at the neighbor's house following the application.</p> <p>(NOTE: Such advance notice is not required for immediate service calls. In those cases, written notification following the application is sufficient.)</p> <p>Verify that, upon completion of each application, the applicator leaves written notice at the property treated containing the following information:</p> <ul style="list-style-type: none"> <li>- the common name of the pesticide(s) that were applied to the property</li> <li>- the telephone number of the applicator</li> <li>- the telephone number of the Department of Environmental Management.</li> </ul> <p>Verify that, at the time of the application, the applicator posts signs at conspicuous points of access to the property and instructs the customer as to their appropriate removal.</p> <p>(NOTE: Conspicuous points of access include, but are not limited to, unobstructed abutting yard, walkways, paths, etc.)</p>

<b>COMPLIANCE CATEGORY:</b> <b>PESTICIDE MANAGEMENT</b> Rhode Island Supplement	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<p><b>PM.30.2.RI.</b> Prior approval is required for applications of restricted- or limited-use pesticides to large woodland areas (CRIR 12 020 013 (Rule O)(5)).</p>	<p>Verify that, prior to commencing each application of a pesticide, managers of public recreation facilities post a notice in the place most likely to inform those who make use of the facility, and that such notices remain in place for 72 h after completion of the application.</p> <p>Verify that the posted signs for residential and public recreation facility applications are:</p> <ul style="list-style-type: none"> <li>- on waterproof stock</li> <li>- no less than 20 in.<sup>2</sup> (4 in. x 5 in.)</li> <li>- printed with the following information in dark letters on a white field: <ul style="list-style-type: none"> <li>- lawn chemicals applied (in letters at least 1/2 in. high)</li> <li>- applicator name</li> <li>- phone number of applicator</li> <li>- Keep Posted for 72 Hours (in letters no smaller than 1/4 in.).</li> </ul> </li> </ul> <p>Verify that restricted-use or state limited-use pesticides are not applied to woodland areas exceeding 25 acres without the prior approval of the Director.</p>

<b>COMPLIANCE CATEGORY:</b> <b>PESTICIDE MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<b>PESTICIDE APPLICATION</b>  <b>PM.35. Other</b>  <b>PM.35.1.RI.</b> Experimental use of a pesticide must meet specific requirements (CRIR 12 020 013 (Rule J)).  <b>PM.35.2.RI.</b> Pesticides obtained from out-of-state must be registered in the state (CRIR 12 020 013 (Rule I)(1)).  <b>PM.35.3.RI.</b> Pesticide applications must avoid contamination of water (CRIR 12 020 013 (Rule O)(2), (3), (4), and (8))).	<p>Verify that persons who intend to use a pesticide for which an experimental-use permit has been issued by the EPA have applied for permission prior to its shipment to or use in Rhode Island.</p> <p>Verify that persons using an experimental-use pesticide report the results to the Director within 6 mo of the date of use or application.</p> <p>Verify that pesticides obtained at retail from out-of-state manufacturers, producers, or distributors are registered in Rhode Island.</p> <p>Verify that no pesticide is applied to public water supplies or their tributaries except by legally established water supply entities or their agents as authorized by the Director.</p> <p>Verify that pesticide applications to lands near or adjacent to public water supplies are made so that no pesticides drift or flow into such water supplies.</p> <p>Verify that no pesticide application is made within 400 ft of gravel-packed wells (or within 250 ft of other wells) used for public water supply, unless materials and methods have been approved by the Director.</p> <p>Verify that pesticide applications are not made on the watershed of a public water supply unless approved by the Director.</p> <p>Verify that pesticide applications to any surface waters of the state for the control of aquatic nuisances or for any other reason are not made unless approved by the Director.</p>



COMPLIANCE CATEGORY: PESTICIDE MANAGEMENT Rhode Island Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 1998
<b>PESTICIDE APPLICATION</b>  <b>PM.40. Documentation</b>  <b>PM.40.1.RI.</b> Commercial pesticide applicators must meet recordkeeping requirements (CRIR 12 020 013 (Rule B)(2)) and (Rule A)(4) [Citation Revised March 1998].  <b>PM.40.2.RI.</b> Private pesticide applicators must meet record-keeping requirements (CRIR 12 020 013 (Rule B)(3)).	<p>Verify that every commercial applicator keeps, for 2 yr from the date of application, true and accurate records containing:</p> <ul style="list-style-type: none"> <li>- the brand names or registered names of the pesticides applied</li> <li>- the formulation used and the quantity of that formulation used per day by each applicator when less than 1 gal of use dilution spray or 1 lb of dusts, powders, or prepared rodenticide baits are used at any one location</li> <li>- the purposes for which the pesticides were applied</li> <li>- the dates of application</li> <li>- the places of application.</li> </ul> <p>Verify that complete records are kept for each location where more than 1 gal of use dilution spray or 1 lb of dusts, powders, or prepared rodenticide baits are used per day.</p> <p>Verify that certified commercial applicators maintain, for a period of at least 5 yr, records of applications of chlordane for the control of termites containing the following information:</p> <ul style="list-style-type: none"> <li>- date of application</li> <li>- municipality in which application was made</li> <li>- address of application.</li> </ul> <p>Verify that certified private applicators keep, for a period of at least 2 yr, true and accurate records containing the following information on their yearly use of each restricted-use and state limited-use pesticide:</p> <ul style="list-style-type: none"> <li>- the brand name or registered name of the pesticide</li> <li>- the EPA registration number of the pesticide</li> <li>- the amount of pesticide applied</li> <li>- the purpose for which the pesticide was applied.</li> </ul>



<b>COMPLIANCE CATEGORY:</b> <b>PESTICIDE MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<b>PM.45.</b> <b>STORAGE, MIXING,</b> <b>PREPARATION</b>	
<b>PM.45.1.RI.</b> Pesticide containers must be used only for pesticides (CRIR 12 020 013 (Rule O)(11)).	Verify that pesticide containers are not used for any purpose other than the storage of pesticides, unless such purpose has been approved by the Director and the containers have been properly cleaned.
<b>PM.45.2.RI.</b> Pesticide containers must be safe (CRIR 12 020 013 (Rule O)(15)).	Verify that no pesticide is distributed in containers which are unsafe due to corrosion, leakage, spillage, or other damage.
<b>PM.45.3.RI.</b> Pesticide labels must be intact (CIRI 12 020 013 (Rule O)(14)).	Verify that no pesticide is distributed if part or all of the label is missing, unreadable, or otherwise damaged beyond recognition.



## Appendix 6-1

### Rhode Island Categories for Commercial Applicators (Source: CRIR 12 020 013 (Rule C))

Every commercial applicator who uses or supervises the use of a restricted use or state limited use pesticide in any of the following categories and sub-categories must be certified for that category and sub-category. The categories and sub-categories for commercial applicators are:

#### Category 1. Agricultural Pest Control

- a. Plant -- This category includes commercial applicators using or supervising the use of restricted use or state limited use pesticides in the production of agricultural crops, such as feed grains, forage, vegetables, fruits and nuts, as well as on grasslands and noncrop agricultural lands.
- b. Animal -- This category includes applicators using or supervising the use of restricted use or state limited use pesticides on animals, such as beef cattle, dairy cattle, swine, sheep, horses, goats, poultry, and livestock, and to places on or in which animals are confined. Veterinarians and physicians who only apply pesticides as drugs or medication during the course of their normal practice need not become certified (or licensed). This exclusion is not applicable to physicians and veterinarians who apply pesticides for hire, who publicly hold themselves out as pesticide applicators, or who engage in large-scale use of pesticides in this category.

#### Category 2. Forest Pest Control

This category includes commercial applicators using or supervising the use of restricted-use or state limited use pesticides in forests, forest nurseries, and forest seed producing areas.

#### Category 3. Ornamental and Turf Pest Control

This category includes applicators using or supervising the use of pesticides as stated in the sub categories below:

- a. Shade Tree (Arborist) -- Applicators using or supervising the use of pesticides in the maintenance and production of ornamental trees.
- b. Custom Grounds -- Applicators using or supervising the use of pesticides in the maintenance and production of ornamental shrubs, flowers and turf.

#### Category 4. Seed Treatment

This includes commercial applicators using or supervising the use of restricted-use or state limited-use pesticides on seeds.

#### Category 5. Aquatic Pest Control

This category includes commercial applicators using or supervising the use of restricted-use or state limited-use pesticides purposefully applied to standing or running water, excluding applicators, engaged in public health related activities included in Category 8.

#### Category 6. Right-of-Way Pest Control

This category includes commercial applicators using or supervising the use of restricted-use or state limited-use pesticides in the maintenance of public roads, electric powerlines, pipelines, railway rights-of-way or other similar areas.

#### Category 7. Industrial, Structural and Health Related Pest Control

This category includes applicators using or supervising the use of pesticides as stated in the sub categories below:

- a. General Pest -- Applicators who use or supervise the use of pesticides for the control of general household pests such as fleas, cockroaches, bedbugs, ants, ticks, chiggers, mites, etc.
- b. Termite and Structural Pest -- Applicators who use or supervise the use of pesticides for control of termites, carpenter ants, powder post beetles, dry rot, and other wood destroying organisms.

- c. Fumigation -- Applicators who use or supervise the use of pesticides that vaporize, or are in a gaseous phase, and kill by action of a toxic gas in houses, warehouses, box cars, etc.
- d. Vertebrate -- Applicators who use or supervise the use of pesticides for the control of rats, mice, bats, birds, etc.
- e. Mosquitoes and Biting Flies -- Applicators who use or supervise the use of pesticides for the control of such biting or stinging arthropods mosquitoes, black flies, horseflies, yellow jackets, hornets, etc.

**Category 8. Public Health Pest Control**

This category includes state, Federal, or other governmental employees using or supervising the use of restricted-use or state limited-use pesticides in public health programs for the management and control of pests having medical and public health importance.

**Category 9. Regulatory Pest Control**

This category includes state, Federal, or other governmental employees who use or supervise the use of restricted-use or state limited-use pesticides in the control of regulated pests.

**Category 10. Demonstration and Research Pest Control**

This category includes: individuals who demonstrate the proper use and techniques of application of restricted use or state limited use pesticides or supervise such demonstration, and persons conducting field research with restricted-use or state limited-use pesticides, and, in doing so, use or supervise the use of restricted use or state limited use pesticides. Included in the first group are such persons as extension specialists and county agents, commercial representatives demonstrating pesticide products, and those individuals demonstrating methods used in public programs. The second group includes: state, Federal, commercial and other persons conducting field research on or utilizing pesticides.

(NOTE: The Director [undefined] may, after a public hearing, add additional categories or sub categories as needed for the certification of commercial applicators.)

## SECTION 8

### PETROLEUM, OIL, AND LUBRICANT (POL) MANAGEMENT

Rhode Island Supplement, March 1998

This section covers the state requirements for POL Management and is intended to supplement the U.S. TEAM Guide. Refer to the U.S. TEAM Guide and the DOD Component Supplements for Federal, DOD, and service-specific requirements.

#### Definitions

- *Bilge Waste* - the waste from the lower part of a vessel's containment area or hold (Code of Rhode Island Rules (CRIR) 12 100 005.5).
- *Biological Additives* - microbiological cultures, enzymes, or nutrient additives that are deliberately introduced into an oil discharge for the specific purpose of encouraging biodegradation to mitigate the effects of the discharge (CRIR 12 100 005.5).
- *Boom* - a structural device or devices used to contain and/or absorb oil or other pollutants that may be placed into water (CRIR 12 100 005.5).
- *Burning Agents* - those additives that, through physical or chemical means, improve the combustibility of the materials to which they are applied (CRIR 12 100 005.5).
- *Chemical Agents* - those elements, compounds or mixtures that coagulate, disperse, dissolve, emulsify, foam, neutralize, precipitate, reduce, solubilize, oxidize, concentrate, congeal, entrap, fix, make the pollutant mass more rigid or viscous, or otherwise facilitate the mitigation of deleterious effects or removal of the pollutant from the water (CRIR 12 100 005.5).
- *Council* - the Coastal Resources Management Council (CRIR 04 000 007.II).
- *Council Representative* - a person appointed or employed as the Council's representative or agent (CRIR 04 000 007.II).
- *DEM* - the RI Department of Environmental Management (CRIR 12 100 005.5).
- *Director* - the Director of the Department of Environmental Management or any subordinate or subordinates to whom he has delegated the powers and duties vested in him by law or regulation (CRIR 12 100 005.5).
- *Discharge* -
  1. Any spilling, leaking, pumping, pouring, emitting, emptying or dumping either directly or indirectly to the waters of the State of Rhode Island (CRIR 04 000 007.II).
  2. The addition of any pollutant to the waters from any point source or placement where it is likely to enter waters of the state (CRIR 12 100 005.5).
- *Dispersants* - those chemical agents that emulsify, disperse, or solubilize oil into the water column, or promote the surface spreading of oil slicks to facilitate dispersal of the oil into the water column (CRIR 12 100 005.5).
- *Facility* - any parcel of real estate or a contiguous series or parcels of real estate together with any and all structures, facility components, improvements, fixtures, and other appurtenances located herein which constitutes

a distinct geographic or commercial unit and at which petroleum products and/or oil are stored (CRIR 12 100 005.5).

- *Oceangoing Ship or Seagoing Vessel* - a vessel that;
  1. is operated under the authority of the United States and engages in international voyages
  2. is operated under the authority of the United States and is certified for ocean service
  3. is operated under the authority of the United States and is certified for coastwise service beyond 3 mi from land
  4. is operated under the authority of the United States and operates at any time seaward of the outermost boundary of the territorial sea of the United States; or
  5. is operated under the authority of a country other than the United States (CRIR 12 100 005.5).
- *Oil* - oil of any kind and in any form including, but not limited to, petroleum, fuel, oil, sludge, oil refuse, oil mixed with other waste, crude oils and all other liquid hydro-carbons regardless of specific gravity (CRIR 04 000 007.II). Includes petroleum, gasoline, tar, asphalt, or any product or mixture thereof, or any substance refined from petroleum or crude oil (CRIR 12 100 005.5).
- *Oil Carrying Vessel* - any floating craft or vessel equipped to carry bulk oil as cargo, or equipped to carry more than 5000 gal of fuel for its own use or which carries oil or chemical wastes (CRIR 12 100 005.5).
- *Oil Spill Cleanup Debris* - waste resulting from the cleanup of oil debris caused by spilling, depositing, releasing or placing of oil onto the land or waters of the State and include but not be limited to soil, absorbent material, or any other material contaminated with oil (CRIR 12 100 005.5) [Added March 1998].
- *Operate or Operators* - any person owning or operating an oil carrying tanker vessel with a capacity of more than 5000 gal whether by lease, contract or any other form of agreement (CRIR 04 000 007.II).
- *Person* - individual, partnership, joint venture, corporation or any group of the foregoing organized or united for a business purpose (CRIR 04 000 007.II).
- *Place or Release* - adding, spilling, releasing, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, spraying into the air, dumping or disposing into the environment of oil, such that oil is likely to enter the waters of the State (CRIR 12 100 005.5) [Added March 1998].
- *Pollutant* - dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, or industrial, municipal, agricultural or other waste, and petroleum products (including but not limited to oil) (CRIR 12 100 005.5) [Added March 1998].
- *Reception Facility* - a facility that has obtained a certificate of adequacy from the Coast Guard pursuant to 33 CFR 158, and means anything capable of receiving shipboard oil or chemical wastes that includes, but is not limited to:
  1. fixed piping that conveys wastes from the vessel to a storage or treatment system
  2. tank barges, railroad cars, or tank trucks and other mobile facilities
  3. any combination of fixed and mobile facilities. This term shall also include certificate shore facility or terminal, as used in Section 46-12-37 of the Rhode Island General Laws (CRIR 12 100 005.5).
- *Sinking Agents* - those additives applied to oil discharges to sink floating pollutants below the water surface (CRIR 12 100 005.5).
- *Surface Collection Agents* - those chemical agents that form a surface film to control the layer thickness of oil (CRIR 12 100 005.5).

- *Terminal* - an onshore facility or an onshore structure used or intended to be used as a port or facility for the transfer or other handling of oil. A ship repair yard is a terminal (CRIR 12 100 005.5).
- *Transfer* - both on-loading and off-loading between vessels (CRIR 04 000 007.II).
- *Vessel* - every description of watercraft or other contrivance used or capable of being used as a means of transportation on water, whether self propelled or otherwise and shall include barges and tugs (CRIR 04 000 007.II).
- *Vessel* - every description of watercraft or other artificial contrivance used, or capable of being used, as a means of transportation on water, whether self-propelled or otherwise, and shall include barges, tugs, and any other floating structure used for the storage and or transportation of oil (CRIR 12 100 005.5).



**PETROLEUM, OIL, AND LUBRICANT (POL) MANAGEMENT  
GUIDANCE FOR RHODE ISLAND CHECKLIST USERS**

**REFER TO CHECKLIST ITEMS:**

Spill Plans	PO.5.1.RI.
Discharges/Spills	PO.15.1.RI. through PO.15.3.RI.
POL Loading and Unloading	
Coastal Areas	PO.55.1.RI. through PO.55.13.RI.
Freshwater Wetlands	PO.55.14.RI.

**GUIDANCE FOR APPENDIX USERS**

**REFER TO APPENDIX NUMBERS:**

**REFER TO APPENDIX TITLES:**

8-1

Precautions Prior to and During Oil and Waste  
Transfers



**COMPLIANCE CATEGORY:**  
**PETROLEUM, OIL, AND LUBRICANT (POL) MANAGEMENT**  
**Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> March 1998
<p><b>PO.5.</b> <b>SPILL PLANS</b></p> <p><b>PO.5.1.RI.</b> Owners/operators of reception facilities, terminals, or outdoor storage tanks must prepare a spill prevention and emergency plan (CRIR 12 100 005.14).</p>	<p>(NOTE: These requirements are not applicable to tanks with a capacity of 500 gal or less storing heating oil.)</p> <p>Verify that a spill prevention and emergency plan has been submitted and contains:</p> <ul style="list-style-type: none"> <li>- up-to-date schematic diagrams showing the location of all outdoor tanks and piping used for the storage and conveyance of oil, including the location of all emergency shutoff valves</li> <li>- a description of onsite emergency containment and cleanup equipment</li> <li>- a description of offsite auxiliary emergency equipment that can be readily obtained, including a listing of cleanup contractors to contact for such equipment</li> <li>- emergency telephone numbers of local, state, and Federal officials who is contacted in case of an oil spill.</li> </ul> <p>(NOTE: Emergency plans or other spill prevention control plans required under other Federal or state requirements may be substituted for the plan required above, provided the plan contains, at a minimum, these requirements.)</p>



**COMPLIANCE CATEGORY:**  
**PETROLEUM, OIL, AND LUBRICANT (POL) MANAGEMENT**  
**Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> March 1998
<p><b>PO.15. DISCHARGES/SPILLS</b></p> <p><b>PO.15.1.RI.</b> Installations/ CW facilities must prevent the discharge of oil into the waters of the state (CRIR 12 100 005.6).</p> <p><b>PO.15.2.RI.</b> Installations/ CW facilities must meet specific oil release response requirements (CRIR 12 100 005.12).</p>	<p>Verify that oil is not released into the waters or onto the land of the state, except in accordance with a permit.</p> <p>Verify that oil is not placed in a location in which they are likely to enter the waters of the state.</p> <p>(NOTE: This prohibition includes, but is not limited to, releases, discharges, or placement of oil from:</p> <ul style="list-style-type: none"> <li>- storm water runoff from an oil refinery, oil storage tank farm, or oil manufacturing industry</li> <li>- boat or ship repair and maintenance, including dry dock operations</li> <li>- bilge or ballast water from any vessel</li> <li>- exhaust steam from any coil or other device used to heat oil</li> <li>- drainage from underground pipe gallery used as a conduit for oil pipes</li> <li>- drainage from the floors of a boiler room</li> <li>- drainage from dike areas around oil storage tanks</li> <li>- drainage to unauthorized underground injection wells or lagoons</li> <li>- drainage from automobile repair, maintenance or wrecking operations.)</li> </ul> <p>Verify that the following actions are taken when oil has been released into the environment:</p> <ul style="list-style-type: none"> <li>- all further oil transfer operations cease until the release is stopped and any oil spill debris material has been removed</li> <li>- the discharge is immediately stopped, and containment and removal of the oil and waste material is initiated</li> <li>- the incident is immediately reported to either: <ul style="list-style-type: none"> <li>- the Department of Environmental Management, Division of Groundwater by calling 277-2234 from 8:30 a.m. to 4:00 p.m. Monday through Friday, or</li> <li>- the Division of Enforcement dispatcher at 277-2284, at all other times</li> </ul> </li> <li>- other appropriate local, state and Federal officials are notified, which may include, the local Fire Chief, Coast Guard, Environmental Protection Agency, Coastal Resources Management Council, and the National Response Center (800-424-8802)</li> <li>- a written report, containing the following information, is submitted to DEM, Chief of the Division of Groundwater, within 10 calendar days of the time the release is first discovered: <ul style="list-style-type: none"> <li>- date, time, and place of release</li> </ul> </li> </ul>

<b>COMPLIANCE CATEGORY:</b> <b>PETROLEUM, OIL, AND LUBRICANT (POL) MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> March 1998
<p><b>PO.15.3.RI.</b> Oil spill cleanup debris must be managed according to specific criteria (CRIR 12 100 005.13) [Added March 1998].</p>	<ul style="list-style-type: none"> <li>- names, addresses, and telephone numbers of all persons potentially responsible or liable for such release</li> <li>- amount and type of material released</li> <li>- complete description of containment and removal operation, including costs of these operations</li> <li>- complete description of circumstances causing the release</li> <li>- description of any third-party damages</li> <li>- procedures, methods, and precautions instituted or planned to prevent a similar event from recurring.</li> </ul> <p>Verify that no chemical agents, dispersants, surface collecting agents, biological additives, burning agents, or sinking agents, are used without the prior consent of the Chief of the DEM Groundwater Division.</p> <p>Verify that oil spill cleanup debris is stored temporarily at the site of the spill or leak (or at another site approved by DEM) only if:</p> <ul style="list-style-type: none"> <li>- the material is stored on an impermeable base or liner</li> <li>- the material is fully covered and secured to prevent the material from leaching into the groundwater, or particulates being dispersed by the wind</li> <li>- representative composite samples are immediately taken and analyzed for oil and grease, lead, PCB and flammability (unless otherwise specified by an authorized DEM representative)</li> <li>- samples are analyzed and the results are submitted to the DEM Division of Groundwater within 30 d of sample collection</li> <li>- if the sample results show the material to be a hazardous waste, the owner or operator of the site takes immediate measures to properly store and dispose of the material as hazardous waste regulations</li> <li>- the temporary storage does not exceed 30 d unless the owner or operator of the site demonstrates to DEM that there is good and DEM issues written authorization for extended temporary storage.</li> </ul> <p>Verify that oil spill cleanup debris is removed from the site only in secured drums or canisters or in a vehicle which is covered.</p> <p>Verify that oil spill cleanup debris is removed only to one of the following:</p> <ul style="list-style-type: none"> <li>- special facilities constructed within a licensed sanitary landfill, or</li> <li>- asphalt manufacturers or others that are licensed as solid waste management facilities and approved by the Department of Environmental Management to accept Oil Spill Debris, or</li> <li>- any out-of-state facility that will agree to take the material and that is allowed to accept the material by the state in which it is located.</li> </ul> <p>Verify that within 10 d of removal of the oil spill cleanup debris, the owner or operator submits to DEM documentation showing when the material was removed</p>

<b>COMPLIANCE CATEGORY:</b> <b>PETROLEUM, OIL, AND LUBRICANT (POL) MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
	and where the material was sent.



**COMPLIANCE CATEGORY:**  
**PETROLEUM, OIL, AND LUBRICANT (POL) MANAGEMENT**  
**Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> March 1998
<p><b>POL LOADING AND UNLOADING</b></p> <p><b>PO.55.</b></p> <p><b>Coastal Areas</b></p> <p><b>PO.55.1.RI.</b> Vessel-to-vessel transfer of bulk oil in a marine environment must meet pretransfer conference requirements (CRIR 04 000 007.III.A).</p>	<p>Verify that persons engaging in bulk oil vessel-to-vessel transfer operations in a marine environment convene a conference before transfer operations begin and agree to meet state vessel-to-vessel transfer requirements.</p> <p>Verify that a licensed officer or a licensed tankerman who has full knowledge of the vessel's tanks and cargo handling system is in charge of cargo handling for each vessel receiving or discharging oil at all times.</p> <p>Verify that a sufficient number of adequately trained personnel are assigned to be constantly on duty on the vessels during cargo transfer operations to keep the transfer operation under constant observation to insure immediate action in case of a malfunction.</p> <p>Verify that, prior to receiving or discharging oil, the cargo sequence for loading or discharging products and the hoseline for each product is established.</p> <p>Verify that, prior to receiving or discharging product, the handling rate at which oil will be transferred is established.</p> <p>(NOTE: Reduced rates are required when commencing transfer, changing the lineup, topping off tanks or nearing completion of transfer.)</p> <p>Verify that the amount of time to be given when the off-loading vessel desires to start, stop, or change the rate of flow has been determined.</p> <p>Verify that a positive communication and signal system is operable during all transfer operations.</p> <p>Verify that the emergency procedures to be followed in order to stop and contain any discharge are established.</p> <p>Verify that personnel responsible for transfer are clearly identifiable at all times.</p> <p>Verify that, prior to transfer operations, personnel responsible for transfer are made known to each other.</p>

**COMPLIANCE CATEGORY:  
PETROLEUM, OIL, AND LUBRICANT (POL) MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>PO.55.2.RI.</b> Vessel-to-vessel oil transfer equipment must meet specific requirements (CRIR 04 000 007.III.B.1).</p>	<p>Verify that all equipment through which oil may pass during transfer operations is visually inspected prior to each operation.</p> <p>Verify that any hose used in transfers is pressure-tested annually and is not subjected to transfer pressures greater than the least of the following:</p> <ul style="list-style-type: none"> <li>- 75 percent of the last pressure test</li> <li>- the rated hose pressure.</li> </ul> <p>Verify that all hoses used in the transfer of petroleum products from vessel-to-vessel are marked with a hose number.</p> <p>(NOTE: These markings are to be in a color sharply contrasting with the color of the hose and are not to be less than 1 1/2 in. high.)</p> <p>Verify that the operator keeps a log book of all tests conducted on the individual hoses which contains the hose number, test pressure, date of test, place of test, and the signature of the person conducting the test.</p>
<p><b>PO.55.3.RI.</b> Vessel-to-vessel transfers must meet specific operational requirements (CRIR 04 000 007.III.B.2 through 7).</p>	<p>Verify that hoses are supported so as to avoid crushing or excessive strain.</p> <p>Verify that flanges, joints, and hoses are checked visually for cracks and wet spots.</p> <p>Verify that hose handling rigs are of a type which allow adjustment for vessel movement and hoses are long enough so that they will not be strained by any movement of the vessels.</p> <p>Verify that hose ends are blanked tightly when hoses are moved into position to be connected and also immediately after they are disconnected and drained into a drip pan.</p> <p>Verify that hoses are not permitted to chafe on vessels or to be in contact with hot surfaces such as steam pipes or to be exposed to other corrosive sources.</p> <p>Verify that mooring lines and lines securing the vessels to each other are tended to prevent excessive movement of the vessels.</p> <p>Verify that the surrounding water is inspected frequently during transfer operations.</p> <p>Verify that a log of all such inspections is kept and signed by the person making the inspection and is available for inspection by a representative of the Coastal</p>

**COMPLIANCE CATEGORY:**  
**PETROLEUM, OIL, AND LUBRICANT (POL) MANAGEMENT**  
**Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> March 1998
<p><b>PO.55.4.RI.</b> Vessel-to-vessel transfers must meet off-loading requirements (CRIR 04 000 007.III.C).</p> <p><b>PO.55.5.RI.</b> Vessel-to-vessel transfer after dark requires adequate illumination (CRIR 04 000 007.III.H).</p> <p><b>PO.55.6.RI.</b> Oil must not be transferred from vessel-to-vessel by means of a hose through an open hatch (CRIR 04 000 007.III.I).</p> <p><b>PO.55.7.RI.</b> Samples of the oil must be taken before transfers of bulk oil from one vessel to another (CRIR 04 000 007.III.J).</p> <p><b>PO.55.8.RI.</b> The Council must be contacted prior to the transfer of oil from one vessel to another (CRIR 04 000</p>	<p>Resources Management Council.</p> <p>Verify that sea valves connected to the cargo piping and stern loading connections are tightly closed and sealed with a numbered seal which is logged in the ship's log book.</p> <p>Verify that lines and valves in the pump rooms and on deck are checked by the ship's master, senior deck officer or deck officer on duty, or licensed tankerman to see that they are properly set for discharging cargo.</p> <p>Verify that full rate of discharge is not attained until the lines of the receiving vessel are proven clear.</p> <p>Verify that transfer of any bulk oil after dark from one oil carrying vessel to another takes place only if both vessels are adequately illuminated.</p> <p>Verify that oil is not transferred from vessel-to-vessel by means of a hose through an open hatch.</p> <p>(NOTE: During emergencies, exceptions to this requirement are made under specific circumstances.)</p> <p>Verify that, prior to the transfer or consent to the transfer of any bulk oil from one vessel to another, a sample of the oil is collected, labeled, and retained by the receiving vessel for a period not to exceed 15 days.</p> <p>(NOTE: The Coastal Resources Management Council will determine the information to be provided with each sample and may require chemical analysis of the sample.)</p> <p>Verify that the Coastal Resources Management Council is notified at least 12 h in advance of any transfer of bulk oil from one vessel to another.</p>

**COMPLIANCE CATEGORY:**  
**PETROLEUM, OIL, AND LUBRICANT (POL) MANAGEMENT**  
**Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> March 1998
<p>007.IV.A).</p> <p><b>PO.55.9.RI.</b> Specific response measures must be taken for overboard discharges during vessel-to-vessel transfers in a marine environment (CRIR 04 000 007.IV.B).</p>	<p>Verify that, in the event of an overboard discharge during vessel-to-vessel transfer, those responsible for the discharge immediately undertake to remove it.</p> <p>Verify that the operator has readily available in the immediate area essential equipment approved by the Council for the containment and removal of such a discharge and sufficient personnel to deploy and use such equipment.</p> <p>Verify that an initial telephone ((401) 277-2284) report of any discharge to the waters of the state is made to the Council or Council's representative as soon as practicable, but within 2 h.</p> <p>Verify that the report includes:</p> <ul style="list-style-type: none"> <li>- the time of discharge</li> <li>- the location of discharge</li> <li>- the type and amount of oil</li> <li>- any assistance required</li> <li>- the name and telephone number of person making report</li> <li>- other pertinent information.</li> </ul> <p>Verify that a second telephone report is made as soon as adequate information is available but not more than 8 h after the first report.</p> <p>Verify that the second telephone report includes:</p> <ul style="list-style-type: none"> <li>- success of containment procedures</li> <li>- actions for removal and success of removal</li> <li>- estimate of area affected by such discharge</li> <li>- assistance required</li> <li>- other pertinent information.</li> </ul> <p>Verify that, after removal of the discharge has been completed, the operator prepares a complete written report of the occurrence and submits it to the Coastal Resources Management Council within ten days.</p> <p>(NOTE: If circumstances make a complete report impossible, a partial report must be submitted.)</p> <p>Verify that this report includes, at a minimum, the following information:</p> <ul style="list-style-type: none"> <li>- date, time and place of discharge</li> <li>- name of permittee, name and owner of vessel or other party(ies) involved</li> <li>- amount and type of oil discharged</li> </ul>

**COMPLIANCE CATEGORY:**  
**PETROLEUM, OIL, AND LUBRICANT (POL) MANAGEMENT**  
**Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> March 1998
	<ul style="list-style-type: none"> <li>- complete description of circumstances causing discharge</li> <li>- complete description of containment and removal operation including costs of these operations</li> <li>- description and estimate of third-party damages</li> <li>- procedures, methods, and precautions instituted to prevent a similar occurrence from re-occurring</li> <li>- recommendations to the Coastal Resources Management Council for changes in regulations or operating procedures</li> <li>- name and address of any person, firm, or corporation suffering damages from the discharge and an estimate of the cost of such damages.</li> </ul>
<p><b>PO.55.10.RI.</b> Vessel-to-vessel transfers of oil must be permitted (CRIR 04 000 007.V.A).</p>	<p>Verify that any person transferring oil from one vessel to another holds a valid permit issued by the Coastal Resources Management Council.</p> <p>Verify that the terms and conditions of the permit are met.</p>
<p><b>PO.55.11.RI.</b> Vessels involved in vessel-to-vessel transfers must have a Declaration of Inspection (CRIR 04 000 007.V.B).</p>	<p>Verify that a copy of the Declaration of Inspection required by the United States Coast Guard is in the possession of the operator or his representative and is available to the Coastal Resources Management Council's representative who, on demand, be given the opportunity to satisfy himself that the condition of the vessel is as stated in the Declaration of Inspection.</p>
<p><b>PO.55.12.RI.</b> A signed Declaration of Understanding is required prior to oil transfer (CRIR 04 000 007.V.C).</p>	<p>Verify that the vessel's pilot presents to the master of the vessel a copy of a Declaration of Understanding when the vessel's pilot boards the vessel.</p> <p>Verify that no transfer of oil is undertaken until such time as the master of the vessel returns the signed Declaration of Understanding to the pilot.</p> <p>Verify that the pilot delivers the Declaration of Understanding to the office of the Coastal Resources Management Council within 5 days.</p> <p>Verify that the terms and conditions of the Declaration of Understanding are met.</p>
<p><b>PO.55.13.RI.</b> Vessel-to-vessel transfer of oil may occur only in specific geographic regions (CRIR 04 000 007.V).</p>	<p>Verify that vessel-to-vessel transfer of oil within the Narragansett Bay East Passage occurs in the area South of Gould Island and North of the Newport Bridge bounded by the following coordinates:</p> <ul style="list-style-type: none"> <li>- latitude 41 30' 41" north longitude 71 20' 57" west</li> <li>- latitude 41 31' 17" north longitude 71 20' 29" west</li> </ul>

**COMPLIANCE CATEGORY:**  
**PETROLEUM, OIL, AND LUBRICANT (POL) MANAGEMENT**  
**Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> March 1998
<p><b>Freshwater Wetlands</b></p> <p><b>PO.55.14.RI.</b> Specific precautions must be taken prior to and during the transfer of oil and wastes (CRIR 12 100 005.7.a) [Revised March 1998].</p>	<ul style="list-style-type: none"> <li>- latitude 41 31' 42" north longitude 71 21' 05" west</li> <li>- latitude 41 30' 49" north longitude 71 21' 14" west.</li> </ul> <p>Verify that the precautions set forth in Appendix 8-1 are taken prior to and during the transfer of oil and wastes between an oil carrying vessel and a terminal.</p>

## Appendix 8-1

### Precautions Prior to and During Oil and Waste Transfers

(Source: CRIR 12 100 005.7)

The following list sets forth the precautions which must be taken prior to and during the transfer of oil and wastes:

1. any flexible hose used in the transfer is tested at a pressure in excess of that to which it is subjected in use, and such tests are conducted annually
2. drip pans are placed under hose connections on the oil carrying vessel
3. drip pans and a tight wharf or pier section enclosed by a curb raised to not less than 4 in. above the deck level is provided under the hose connections on the wharf or pier  
(NOTE: Drip pans are to be in place before tight blank is removed and they must remain in place until the blank is replaced and the hose is moved. This requirement does not prevent the installation of a drain to a tight curbed wharf or pier section for the removal of stormwater, provided the drain is tightly closed during any oil or waste transfer and no oil or waste contaminated drainage from the tight section is discharged into the waters of the state when the drain is open.)
3. hoses are supported so as not to become crushed between the oil-carrying vessel at the wharf or pier and to prevent undue strain on the hoses and manifolds caused by sharp bends in the hoses
4. hoses are long enough so that they are not strained by any movement of the oil carrying vessel if the vessel's mooring lines are adequately tended
5. mooring lines are tended frequently to prevent excessive movement of the oil carrying vessel at the wharf or pier
6. hose ends are blanked tightly when hoses are moved into position to be connected, and also immediately after they are disconnected, before they are moved away from their connections
7. throughout the transfer operation, a person is stationed on the deck of the oil carrying vessel in site of the hose and its connections, and another person is stationed on shore in sight of the hose and its shore connection  
(NOTE: Other trained personnel, as necessary, are to be on duty so as to ensure immediate action in case of a malfunction.)
8. the scuppers on the oil carrying vessel are to be plugged watertight during the oil transfer or ballasting operation
9. if the transfer is to take place after sunset and before sunrise, the decks and wharf or pier area, as well as the water area between the vessel and the wharf, are to be brightly illuminated, and emergency auxiliary lighting and generating equipment are to be readily available
10. all sea valves connected to the cargo piping, stern discharge, and ballast discharge valves are to be closed and sealed with a numbered seal
11. all hose riser valves not to be used are closed and blank flanged, and all air valves on headers are to be closed
12. means of communication between the oil carrying vessel and shore are to be checked and all signals between the vessel and shore thoroughly understood
13. loading is to be started at a slow rate and an inspection made of the oil carrying vessel's tanks to determine that all is going according to plan before loading is increased to desired rate
14. no more tanks are to be loaded at one time than can be safely watched and controlled
15. special attention is to be paid during the topping-off process to the loading rate, the number of tanks open, the danger of air pockets, and the inspection of tanks already loading
16. to allow time for orderly control, the slow down for topping-off is to be anticipated and notice given to shore personnel
17. water around the oil carrying vessel's side is to be inspected frequently, especially in the area of the seacocks, to ensure that no oil is escaping overboard
18. upon completion of loading, all tank valves and loading valves are to be closed. After draining, hoses are to be disconnected and hose risers blanked

19. lines and valves in the pumprooms and on deck are to be checked by the ship's master or senior deck officer to see that they are properly set for discharging cargo. An additional check is to be made for the same purpose each time the setting is changed
20. a check valve to prevent backflow is to be located in the discharge line of each oil cargo pump of a centrifugal type; the check valve is to be located at a point in the discharge line ahead of any connection the line makes with the discharge line from any other cargo pump on the vessel
21. a copy of the Declaration of Inspection, required by the United States Coast Guard, is to be handed to the terminal superintendent or his representative, who on demand, is given the opportunity to satisfy himself that the condition of the oil carrying vessel is as stated in the Declaration of Inspection
22. the terminal is to have readily available essential equipment to contain and remove any oil spillage, and have personnel available on a 24-h emergency basis who are familiar with such salvage or cleanup operations
23. the owner/operator is to meet all sample collection requirements of the Coastal Resources Management Council
24. the owner/operator is to obtain a permit, as required by the Coastal Resources Management Council, and comply with all permit terms and conditions
25. no oil carrying vessel, while at anchor, is to transfer oil while gale warnings (wind velocity 35 knots or more) are in effect.
26. vessel-to-vessel transfers are carried on at the dock with prior notification and approval of the United States Coast Guard.  
(NOTE: Offshore transfers may only be carried on in anchorage areas designated by the Coastal Resources Management Council, except for the transfer of fuel for a vessel's own use. Prior to conducting any vessel-to-vessel transfer the owner or operator of such vessels are to notify DEM of the date, time, and volume of such transfer and are to contract for emergency, stand-by cleanup services. The Director of DEM may, on an emergency basis, further restrict such vessel-to-vessel transfers and require that such transfers be limited to onshore terminal facilities.)
27. if two or more cargo pumps discharge into a common line on the vessel or on the shore, assurance is to be made that a check valve, in good working order, is in each line to prevent backflow of cargo in the event that one pump stops.
28. comply with Coast Guard requirements.

## SECTION 9

### SOLID WASTE MANAGEMENT

#### Rhode Island Supplement, March 1998

This section covers the state requirements for Solid Waste Management and is intended to supplement the U.S. TEAM Guide. Refer to the U.S. TEAM Guide and the DOD Component Supplements for Federal, DOD, and service-specific requirements.

#### Definitions

- o Active Life* - relative to Solid Waste Landfill Units, the period of operation beginning with the initial receipt of solid waste and ending at completion of closure activities per Rule 2.1.09 (Code of Rhode Island Rules (CRIR) 12 030 021(1.3)) [Added March 1998].
- o Active Portion* - relative to Solid Waste Landfill Units, that part of a facility or unit that has received or is receiving wastes and that has not been closed in accordance with Rule 2.1.09 (CRIR 12 030 021(1.3)) [Added March 1998].
- o Adulterated Wood Waste* - wood waste that has been treated, painted, coated, stained, soiled, contaminated, or similarly altered from its clean or virgin state (CRIR 12 030 021(1.3)) [Added March 1998].
- o Aerated Static Pile Composting* - a method of composting in which oxygen and temperature levels are mechanically controlled by forced aeration using blowers. A series of perforated pipes (or equivalent) air distribution system runs underneath the compost pile and is connected to a blower that either draws or blows air through the pile. Little or no pile turning is performed (CRIR 12 030 021(1.3)) [Added March 1998].
- o Aeration* - for composting, means bringing about contact of air and composting solid organic matter, by means of turning or ventilating, to allow aerobic microbial metabolism of the organic matter (CRIR 12 030 021(1.3)) [Added March 1998].
- o Aerobic* - occurring in the presence of oxygen (CRIR 12 030 021(1.3)) [Added March 1998].
- o Aerobic Composting* - decomposition of organic materials by bacteria in the presence of oxygen (CRIR 12 030 021(1.3)) [Added March 1998].
- Agricultural By-product* - discarded organic materials produced from the raising of plants and animals as part of agronomic, floricultural, horticultural, silvicultural, vinicultural or viticultural operations including, but not limited to, animal manure, bedding materials, plant stalk, leaves, other vegetative matter and discarded by-product from the on-farm processing of fruits and vegetables (CRIR 12 030 021(1.3)) [Added March 1998].
- o Agricultural Composting* - the composting of agricultural by-products and/or other specified compostable materials on an "agricultural unit", resulting in compost products for agricultural and horticultural uses (CRIR 12 030 021(1.3)) [Added March 1998].
- o Agricultural Composting Facility* - that part of an agricultural unit upon which agricultural composting takes place. Such facilities must meet the requirements of the Office of Natural Resource Services (CRIR 12 030 021(1.3)) [Added March 1998].

- o *Airport* - a public-use airport open to the public without prior permission and without restrictions within the physical capacities of available facilities, as defined in 40 CFR 257.3-8 (e)(1)(1979) (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Anaerobic* - occurring in the absence of oxygen (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Anaerobic Digestion* - decomposition of organic material in the absence of oxygen (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Apparent Opening Size* - the number of the U.S. Bureau of Standards sieve, or its opening size in millimeters or inches, having openings closest in size to the diameter of uniform particles which will allow 5 percent or less by weight to pass through (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Aquifer* - a geologic formation, group of formations, or part of a formation that contains sufficient saturated, permeable material to yield significant quantities of water to wells and springs (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Asbestos* - actinolite, amosite, anthophyllite, chrysotile, crocidolite, and tremolite (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Ash Residue* - all the solid residue and any entrained liquids resulting from the combustion of solid waste or solid waste in combination with fossil fuel at a solid waste incinerator, including bottom ash, boiler ash, fly ash, and the solid residue of any air pollution control device used at a solid waste incinerator (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Backyard Composting* - the composting on a residential site of certain wastes generated only at that site and where the compost produced is utilized on site and is not distributed or marketed. Wastes which may be composted include leaf and yard waste, certain food wastes including fruits and vegetables, tea leaves, coffee grounds, and egg shells; hair, sawdust, manures from animals that eat only plants, and other wastes acceptable to the Department for backyard composting (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Base Flood* - a flood that has a 1 percent or greater chance of recurring in any year or a flood of magnitude equaled or exceeded once in 100 years on the average over a significantly long period, as defined in 40 CFR 257.3-1 (b)(1), as is or as amended (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Bedrock* - solid rock, commonly called ledge, that forms the earth's crust (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Biodegradable* - capable of being broken down (degraded) by micro-organisms into simpler compounds or natural elements (CRIR 12 030 021(1.3)) [Added March 1998].
- *Biologicals* - preparations made from living organisms and their products, including vaccines, cultures, etc., intended for use in diagnosing, immunizing or treating humans or animals or in research pertaining thereto (CRIR 12 030 017(5.00)).
- o *Bird Hazard* - an increase in the likelihood of bird/aircraft collisions that may cause damage to the aircraft or injury to its occupants (40 CFR 257.3-8 (e)(2)), as is or as amended (CRIR 12 030 021(1.3)) [Added March 1998].
- *Blood Products* - any product derived from human blood, including but not limited to blood plasma, platelets, red or white blood corpuscles, and other derived licensed products, such as interferon, etc. (CRIR 12 030 017(5.00)).
- *Body Fluids* - liquid emanating or derived from humans and limited to blood; cerebrospinal, synovial, pleural, peritoneal and pericardial fluids; dialysate and amniotic fluids; and semen and vaginal secretions but excluding

feces, urine, nasal secretions, sputum, sweat, tears, vomitus, saliva, and breast milk, unless any such excluded substance contains visible blood or is isolation waste (CRIR 12 030 017(5.00)).

- o Bottom Ash* - the ash residue remaining after combustion of solid waste or solid waste in combination with fossil fuel in a solid waste incinerator that is discharged through and from the grates, combustor, or stoker (CRIR 12 030 021(1.3)) [Added March 1998].
  - o Buffer* - any distance, topographical feature, vegetative, or man-made structure that allows for mitigation of impacts of composting or other solid waste management facility activity on neighboring land uses (CRIR 12 030 021(1.3)) [Added March 1998].
  - o Buffer Zone* - an area of land between a composting facility or solid waste management facility and neighboring facilities or homes which shield these abutters from negative impact of the composting facility or solid waste management facility operations (CRIR 12 030 021(1.3)) [Added March 1998].
  - o Bulking Agent* - a material added to composting wastes to provide structure to those wastes to lower total moisture content and to allow air to reach and be held in small pockets within the waste, by preventing settling and compaction of the waste. Most bulking agents are carbonaceous, thereby providing a source of carbon to the composting mix, and are frequently chipped or shredded wastes, such as sawdust, wood chips or yard trimmings (CRIR 12 030 021(1.3)) [Added March 1998].
  - o Bulky Waste* - large items of solid waste such as appliances, furniture, auto parts, stumps, etc. (CRIR 12 030 021(1.3)) [Added March 1998].
  - o Bypass Waste* - any solid waste that is either within the control of the operator of a solid waste incinerator or processing facility or within the control of another person, that requires treatment at the facility but cannot be so treated, and includes:
    - 1. "downtime waste", meaning any treatable or burnable solid waste accumulated during a scheduled or unscheduled maintenance period of the facility, or
    - 2. "excess waste", meaning solid waste which cannot be treated because the facility is operating at the approved design capacity.
- For the purposes of this definition, "control" means control exercised by contract, local law, or any other means (CRIR 12 030 021(1.3)) [Added March 1998].
- *Carbon To Nitrogen Ratio (C:N ratio)* - the numerical ratio of the mass of carbon to the mass of nitrogen in an organic material or in a mix of materials and which determines the composting potential of the organic material or the mix of materials (CRIR 12 030 021(1.3)) [Added March 1998].
  - o Cell* - compacted solid wastes that are completely enclosed by natural soil or cover material (CRIR 12 030 021(1.3)) [Added March 1998].
  - *Central Collection Point* - a location where a generator consolidates regulated medical waste brought together from original generation points prior to its transport offsite to a transfer facility, an intermediate handler, or a destination facility. A storage facility shared by Small Quantity Generators within a building is considered a Central Collection Point (CRIR 12 030 017(5.00)).
  - *Co-Composting* - a composting operation which includes the use of septic waste or sewage sludge as part of its process for composting portions of the solid waste stream.
  - o Coefficient of Permeability and Hydraulic Conductivity* - the rate of laminar flow of water through a unit cross-sectional area of a porous medium under a unit hydraulic gradient at a standard temperature. The units of "Coefficient of Permeability" and "Hydraulic Conductivity" shall be expressed in centimeters per second (CRIR 12 030 021(1.3)) [Added March 1998].

- o *Collection Station* - a solid waste management facility where refuse arrives by automobile or vehicles other than collection vehicles from sites separate from the collection station for transfer to another solid waste management facility (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Combined Ash* - the mixture of bottom ash and fly ash (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Combustion* - the thermal treatment of solid waste in a device which uses elevated temperatures as the primary means to change the chemical, physical, or biological character and composition of the waste. Examples of combustion processes include incineration, pyrolysis, and fluidized bed (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Commercial Waste* - solid waste generated by stores, offices, institutions, restaurants, warehouses, and activities at industrial facilities (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Compost* - a soil amending material resulting from the aerobic, thermophilic, microbial processing of organic materials (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Compostable* - organic material that can be biologically decomposed under aerobic conditions (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Compost Class* - the designation of compost, according to its physical, chemical, and biological characteristics (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Composting* - any aerobic, thermophilic process which allows for the conversion of raw organic materials into a stable soil amendment (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Composting Facility* - a facility, excluding any facility which composts only sewage sludge, which employs a composting process, acceptable to the Department, to produce compost from the organic fraction of the received solid waste stream (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Composting Pad* - the surface area within the composting facility upon which organic materials are composted (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Construction Certification Report* - a report submitted to the Department upon completion of the construction of a solid waste management facility which includes the resulting information prepared in accordance with the requirements of this Rule and the license issued thereto (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Construction and Demolition Debris Processing Facility* - a solid waste management facility that receives and processes construction and demolition debris of more than 150 tons per day, and that can demonstrate, through records maintained at the facility, that seventy-five percent of the recyclable material received by the facility is processed and removed from the site within 6 weeks of receipt on a continuous basis, and that in no case stores material on site for over 3 months (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Construction and Demolition Debris Separation Facility* - a facility that receives, separates, and/or screens construction and demolition debris into its components for subsequent resale or processing which includes but is not limited to grinding, shredding, crushing, or landfilling at another location separate and apart from the location in which the separation occurs (CRIR 12 030 021(1.3)) [Added March 1998].
- *Construction and Demolition (C&D) Debris* - non-hazardous solid waste resulting from the construction, remodeling, repair, and demolition of utilities and structures; and uncontaminated solid waste resulting from land clearing. Such waste includes, but is not limited to wood (including painted, treated and coated wood and wood products), land clearing debris, wall coverings, plaster, drywall, plumbing fixtures, non-asbestos insulation, roofing shingles and other roofing coverings, glass, plastics that are not sealed in a manner that conceals other wastes, empty buckets ten gallons or less in size and having no more than one inch of residue remaining on the

bottom, electrical wiring and components containing no hazardous liquids, and pipe and metals that are incidental to any of the above. Solid waste that is not C&D debris (even if resulting from the construction, remodeling, repair, and demolition of utilities, structures, and roads and land clearing) includes, but is not limited to, asbestos waste, garbage, corrugated container board, electrical fixtures containing hazardous liquids such as fluorescent light ballasts or transformers, fluorescent lights, carpeting, furniture, appliances, tires, drums, containers greater than ten gallons in size, any containers having more than one inch of residue remaining on the bottom, and fuel tanks. Also excluded from the definition of C&D debris is solid waste resulting from any processing technique that renders individual waste components unrecognizable, such as pulverizing or shredding, at a facility that processes C&D debris (CRIR 12 030 021(1.3)) [Added March 1998].

- o *Cover Material* - clean soil or earth or other material approved by the Director that is used to cover compacted solid waste in a sanitary landfill (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Critical Habitat* - for a threatened or endangered species is defined in the Endangered Species Act, 16 U.S.C. 1532, as is or as amended, and shall also include State species of concern as identified by the Natural Heritage Program (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Curing* - the final stage of composting, after much of the readily metabolized organic material has been decomposed, in which the compost material further stabilizes at a slower rate and at a lower temperature than during the initial active composting phase (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Curing Area* - the area of the composting facility where curing of the compost occurs (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Decomposition* - the breakdown of organic matter by microbial activity (CRIR 12 030 021(1.3)) [Added March 1998].
- *Decontamination* - the process of substantially reducing or eliminating the presence of harmful substances, such as infectious agents, so as to substantially reduce the likelihood of disease transmission from those substances (CRIR 12 030 017(5.00)).
- o *Department* - the Rhode Island Department of Environmental Management (CRIR 12 030 021(1.3)) [Added March 1998].
- *Destination Facility* - the disposal facility, the incineration facility, or any other type of facility that both treats and destroys regulated medical waste, to which a consignment of such is intended to be shipped. A destination facility is subject to the Rhode Island Rules and Regulations for Solid Waste Management Facilities if the facility is located within the State of Rhode Island (CRIR 12 030 017(5.00)).
- *Destroyed Regulated Medical Waste* - regulated medical waste that has been ruined, torn apart, or mutilated through processes such as thermal treatment, melting, shredding, grinding, tearing, or breaking, so that it is no longer generally recognizable as medical waste. Encapsulation or compaction of regulated medical waste does not render such waste destroyed regulated medical waste (CRIR 12 030 017(5.00)).
- *Destruction Facility* - a facility that destroys regulated medical waste by ruining or mutilating it, or tearing it apart and may include a transfer station, a solid waste management facility, or any other facility that destroys regulated medical waste. A destruction facility is subject to the Rhode Island Rules and Regulations for Solid Waste Management Facilities if the facility is located within the State of Rhode Island (CRIR 12 030 017(5.00)).
- o *Destruction or Adverse Modification* - (of a critical habitat of endangered or threatened species) means a direct or indirect alteration of a critical habitat which appreciably diminishes the likelihood of the survival and recovery of threatened or endangered species using that habitat, as defined in 40 CFR 257.3-2 (c)(2), as is or as amended (CRIR 12 030 021(1.3)) [Added March 1998].

- o *Director* - the Director or the Commissioner of the Rhode Island Department of Environmental Management and his or her designee (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Discharge* - is defined in the Clean Water Act of 1977, 33 U.S.C. Section 1322 (a)(9), as is or as amended, and for the purposes of these Rules and Regulations, it shall include leaching and releases (CRIR 12 030 021(1.3)) [Added March 1998].
- *Disposal* - the:
  - 1. depositing, casting, throwing, leaving or abandoning of a quantity greater than 3 yd<sup>3</sup> of solid waste (CRIR 13 000 008(3)), or
  - discharge, deposit, injection, dumping, spilling, leaking, abandoning, or placing of any regulated medical waste in, on, into, or onto any land, other surface, or building or vehicle, or trailer, or other containment structure, or into any water, watercourse, stormwater system or sewer system (CRIR 12 030 017(5.00)), or
  - the abandonment, discard or final disposition of waste (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Distribute* - to offer for sale, sell, barter, or otherwise supply compost products derived from organic solid waste (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Distributor* - the person or company which distributes or markets composted products derived from organic solid waste (CRIR 12 030 021(1.3)) [Added March 1998].
- *Domestic Sewage* - any human excremental liquid or substance, any putrescible vegetable matter, garbage and filth, including, but not limited to, the discharge of toilets, laundry tubs, washing machines, sinks, and dishwashers, which is disposed of by means of a septic system or sanitary sewer (CRIR 12 030 017(5.00)).
- *Encapsulation* - the application of a substance which either creates a membrane over the surface and/or penetrates the material and binds its components together (CRIR 12 030 017(5.00)).
- *Enclosed Vessel (In-Vessel Composting)* - the composting of materials within an enclosed vessel in which adequate mixing, aeration, and moisture control are provided (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Endangered or Threatened Species* - is defined in the Endangered Species Act, as amended, 16 U.S.C. Section 1532 (6)(15), as is or as amended, and shall also include State species of concern as identified by the National Heritage Program (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Energy Recovery* - treatment by which energy is derived or extracted from solid waste (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Energy Recovery Incinerator* - an incinerator in which household waste and nonhazardous industrial/commercial waste are combusted for energy production (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Existing SWLF Unit* - relative to Solid Waste Landfill Units, any solid waste landfill that is receiving solid waste as of 9 October 1993. Waste placement in existing units must be consistent with past operating practices or modified practices to ensure good management (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Facility* - (see "Solid Waste Management Facility") (CRIR 12 030 021(1.3)) [Added March 1998].
- *Facility* - all land and structures, other appurtenances, and improvements on the land, used for generating, handling, storing, treating, destroying, or disposing of regulated medical waste; provided that all land and structures are under the control of a single person or legal entity. A facility may consist of several generating, handling, storage, treatment, destruction, or disposal operation units (CRIR 12 030 017(5.00)).

- o *Facilities That Process Construction and Demolition Debris* - facilities that receive and process construction and demolition debris (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Farmer* - an individual, partnership or corporation who operates a farm and meets the requirements of RIGL 2-1-22(i)(1) (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Final Cover* - cover material which will be permanently exposed to the environment (CRIR 12 030 021(1.3)) [Added March 1998].
- *Finished Compost (finished product)* - compost that meets at least minimum requirements for public health, safety and environmental protection and is suitable for use as defined by compost quality standards or as approved by the Department (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Flood Plain* - is defined in the R.I. Fresh Water Wetlands Act 1956 R.I.G.L., as is or as amended, Section 2-1-20, and in the "Rules and Regulations Governing the Enforcement of the Fresh Water Wetlands Act" (effective March, 1981), as is or as amended (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Fly Ash* - the ash residue from the combustion of solid waste or solid waste in combination with fossil fuel that is entrained in the gas stream of a solid waste combustion facility and removed by the air pollution control equipment (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Food Chain Crops* - crops consumed by humans as well as crops grown as feed for animals whose products, in turn, are consumed by humans (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Foreign Matter* - the inorganic and organic constituents that are not readily decomposed and which may be present in finished compost. Examples include, but are not limited to, glass, plastics, metals, rubber, bones and leather (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Friable Asbestos Material* - any material that contains more than 1 percent asbestos by weight and that can be crumbled, pulverized, or reduced to powder, when dry, by hand pressure (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Generator* - any person whose act or process produces a solid waste or whose act first causes solid waste to be subject to regulation under this Title (CRIR 12 030 021(1.3)) [Added March 1998].
- *Generator* - any person whose act or process produces regulated medical waste as defined in these regulations, or whose act first causes a medical waste to become subject to regulation. In the case where more than one person (e.g., doctors with separate medical practices) is located in the same building, each individual business entity shall be considered a separate generator for purposes of these regulations. The universe of medical waste generators includes, but is not limited to, hospitals, physicians' offices, dental offices, veterinary practices, funeral homes, laboratories that perform health-related analyses or services, nursing homes, and hospices (CRIR 12 030 017(5.00)).
- o *Groundwater* - water found underground which completely fills the open spaces between particles of sediment and within rock formations (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Groundwater Recharge Area* - the land surface from which water is added to the zone of saturation. The recharge area for a particular well or aquifer, for instance, is that land surface from which water moves to the well or aquifer or may move to the well or aquifer under certain hydraulic conditions (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Groundwater Reservoir* - those stratified drift deposits having a saturated thickness greater than or equal to 40 feet and a transmissivity greater than or equal to 4000 feet squared per day which have been determined by the Director to be potentially significant sources of water (CRIR 12 030 021(1.3)) [Added March 1998].

- o *Hazardous Waste* - any waste as defined in the Rhode Island Hazardous Waste Management Act, Section 23-19.1.4(4), or in regulations adopted pursuant thereto, as are or as amended (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Heavy Metals* - metallic elements with higher molecular weights and at certain concentrations, some of these elements may present health risks to humans and animals and may be toxic to plants (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Humus* - a complex amorphous aggregate, formed during the microbial decomposition or alteration of plant and animal residues and products synthesized by soil organisms; principal constituents are derivatives of lignins, proteins, and cellulose combined with inorganic soil constituents and for water absorption (CRIR 12 030 021(1.3)) [Added March 1998].
- *Impermeable (Impervious)* - not permitting the passage of liquids through its substance (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Impermeable Liner* - a layer of natural or man-made material of sufficient thickness, density and composition so as to impede the passage of a fluid to a degree that will satisfy the standards required by the Department. For natural materials, this standard shall be  $1 \times 10^{-10}$  cm/sec. For man-made materials, this standard shall be  $1 \times 10^{-12}$  cm/sec (CRIR 12 030 021(1.3)) [Added March 1998].
- *Incineration* - the treatment and destruction of regulated medical waste using controlled flame combustion in an arrangement of chambers and equipment designed for burning solid, semisolid or gaseous combustible waste to a gas and residue (CRIR 12 030 017(5.00)).
- o *Incinerator* - an arrangement of chambers and equipment designed for burning solid, semi-solid or gaseous combustible waste to a gas and residue. Incinerators used only for the combustion of solid waste generated on site shall not be covered by this definition (CRIR 12 030 021(1.3)) [Added March 1998].
- *Infectious Agent* - any organism, such as a virus or a bacteria, that is capable of being communicated by invasion and multiplication in body tissues and capable of causing disease or adverse health impacts in humans (CRIR 12 030 017(5.00)).
- o *Initial Cover* - cover material that is spread and compacted on the top, side slopes, and the face of compacted solid waste at least at the end of each operating day in accordance with Rule 2.3.04(a) (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Inorganic Materials* - materials in which there are no carbon-to-carbon bonds, such as minerals, and which, therefore, will not undergo biological decomposition (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Intermediate Cover* - cover material which must resist erosion for a longer period of time because it is applied in accordance with Rule 2.3.04(b) on areas where additional cells are not to be constructed for extended periods of time (CRIR 12 030 021(1.3)) [Added March 1998].
- *Intermediate Handler* - a facility that either treats regulated medical waste or destroys regulated medical waste but does not do both. The term, as used in these regulations, does not include transporters. An intermediate handler shall obtain a license for a Solid Waste Management Facility from DEM, Division of Waste Management, as per the Rhode Island Rules and Regulations for Solid Waste Management Facilities (CRIR 12 030 017(5.00)).
- *Laboratory* - any research, analytical, or clinical facility that performs health care related analysis or service. This includes, but is not limited to, medical, pathological, pharmaceutical, and other research, commercial, or industrial laboratories (CRIR 12 030 017(5.00)).

- *Landfill* - a disposal facility or part of a facility where regulated medical waste is placed in or on the land and which is not a land treatment facility, a surface impoundment, or an injection well (CRIR 12 030 017(5.00)).
- o *Landfill Cell* - a discrete volume of a landfill which uses a liner system to provide isolation of solid waste from adjacent cells of solid waste (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Landfill Gas Recovery Facility* - a facility in which gases produced from the decomposition of solid wastes are collected for the purpose of the control of landfill gas migration and/or for the recovery of energy (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Land Reclamation* - the restoration of productivity to lands made barren through processes such as erosion, mining, or land clearing.
- o *Lateral Expansion* - relative to Solid Waste Landfill Units, a horizontal expansion of the waste boundaries of an existing SWLF unit (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Leachate* - a liquid that has percolated through, or originated in solid waste and is presumed by these Rules and Regulations to contain dissolved or suspended materials from solid waste (CRIR 12 030 021(1.3)) [Added March 1998].
- *Lead-Free* - any soil, compost, sludge, or other designated medium that either contains no lead, or contains lead in amounts less than the maximum acceptable environmental lead levels established in the Rhode Island Department of Health "Rules and Regulations for Lead Poisoning Prevention", as amended (CRIR 12 030 021(1.3)) [Added March 1998].
- *Lead-Safe* - any soil, compost, sludge, or other designated medium that contains lead in amounts less than the maximum permissible environmental lead levels established in the Rhode Island Department of Health "Rules and Regulations for Lead Poisoning Prevention", as amended; which poses no significant environmental lead exposure hazard despite having a lead concentration above that required for a designation as "Lead Free" (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Leaf and Yard Waste Composting Facility* - a facility, that is required to be registered with the Department, that is designed and operated to compost only leaf and yard waste (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Leaves* - seasonal deposition from deciduous and coniferous trees and shrubbery (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Licensing Agency* - the Department of Environmental Management (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Lift* - a compacted layer of solid waste plus its overlying cover material in a sanitary landfill (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Liner System* - a continuous layer of natural and man-made materials, beneath or on the sides of a surface impoundment, landfill, or landfill cell, which restricts the downward or lateral escape of solid waste, any constituents of such wastes, or leachate and which complies with these Rules and Regulations (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Manure* - a waste composed of excreta of animals (CRIR 12 030 021(1.3)) [Added March 1998].
- *Materials Recovery Facility (MRF) or Intermediate Processing Facility (IPF)* - a facility consisting of structures, machinery, or devices utilized to sort, bale, or otherwise process only source segregated recyclable materials prior to conveyance to market outlets. Facilities meeting the above requirements are not required to apply for a solid

waste management facility license except for facilities that accept, store, or process waste tires pursuant to RIGL 23-63. Facilities meeting the above requirements are required to register with the Office of Program Development (CRIR 12 030 021(1.3)) [Added March 1998].

- o Mature Compost* - compost that has stabilized and has undergone a reduction of pathogens below the level of human risk. It is characterized as containing readily available forms of plant nutrients, poor in phytotoxic acids and phenols, and low in available carbon compounds (CRIR 12 030 021(1.3)) [Added March 1998].
- *Medical Waste Tracking Form* - the form used for identifying the quantity, composition, and the origin, routing, and destination of regulated medical waste during its transportation from the facility of generation to the point of transfer, disposal, treatment, destruction, or storage (CRIR 12 030 017(5.00)).
- o Microorganisms* - living organisms visible only with a microscope (CRIR 12 030 021(1.3)) [Added March 1998].
- o Mixed Solid Waste* - heterogeneous and commingled solid waste, which may include readily biodegradable organic wastes, as well as other organic wastes which are not readily biodegradable and may also contain inorganic, non-compostable wastes (CRIR 12 030 021(1.3)) [Added March 1998].
- o Mixed Solid Waste Composting Facility* - a solid waste management facility that is designed and operated to produce compost from the compostable portion of a mixed solid waste input stream (CRIR 12 030 021(1.3)) [Added March 1998].
- o Monofill* - a landfill or landfill cell into which only one homogeneous type of waste is placed (CRIR 12 030 021(1.3)) [Added March 1998].
- o New SWLF Unit* - relative to Solid Waste Landfill Units, any solid waste landfill unit that has not received waste prior to October 9, 1993 (CRIR 12 030 021(1.3)) [Added March 1998].
- *Non-Compostable* - incapable of decomposing naturally or of yielding safe, non-toxic end products, after decomposition (CRIR 12 030 021(1.3)) [Added March 1998].
- *Non-hazardous Liquid and Semi-Liquid Waste* - any discarded material that is liquid or semi-liquid and which is not hazardous waste as defined in the Hazardous Waste Management Act, R.I.G.L. 23-19.1, or rules and regulations promulgated pursuant to such Act, as is or as amended (CRIR 12 030 021(1.3)) [Added March 1998].
- *Offsite* - facility or area for the storage, treatment, and/or disposal of regulated medical waste which is not on the generator's site (i.e., "onsite") or a facility or area which receives regulated medical waste for storage or treatment which has not been generated "onsite" at that facility (CRIR 12 030 017(5.00)).
- o Oil Spill Cleanup Debris* - waste resulting from the cleanup of debris caused by spilling depositing or placing of petroleum distillates, including but not limited to crank case oil, lubricants and hydraulic oil, penetrant oils, tramp oils, quenching oils, kerosene, gasoline, aviation fuels, diesel, and Nos. 2, 4, and 6 heating oil, onto the land or into the waters of the State (CRIR 12 030 021(1.3)) [Added March 1998].
- *Onsite* - land area and appurtenances thereon and thereto used for the collection, storage, processing, treatment, and/or disposal of regulated medical waste on the same or geographically contiguous property at which regulated medical waste is generated. Two or more pieces of property either owned or operated by a single person or legal entity are considered a single site (CRIR 12 030 017(5.00)).
- o Open Burning* - the combustion of solid waste without:
  1. Control of combustion air to maintain adequate temperature for efficient combustion,
  2. Containment of the combustion reaction in an enclosed device to provide sufficient residence time and mixing for complete combustion, and
  3. Control of the emission of the combustion products (CRIR 12 030 021(1.3)) [Added March 1998].

- o *Operating a Solid Waste Management Facility* - receiving solid waste at any facility, whether knowingly or unknowingly. For purposes of disposal, such receipt must be in an amount greater than three cubic yards, per Rhode Island General Law § 23-18.9-5; and any property owner is considered to be operating a solid waste management facility if an amount of solid waste greater than three cubic yards exists on their property (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Operator* - the person, corporation, or entity responsible for daily operations or activities at a composting facility or solid waste management facility, whether licensed or unlicensed (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Organic Material* - materials that contain carbon-to-carbon bonds and are biodegradable, such as paper, wood, food waste, leaves, and yard waste (CRIR 12 030 021(1.3)) [Added March 1998].
- *Original Generation Point* - the location where regulated medical waste is generated. Waste may be taken from original generation points to a central collection point prior to offsite transport or onsite treatment (CRIR 12 030 017(5.00)).
- o *Owner* - any person, corporation, or entity who owns a composting facility or solid waste management facility and who may also own the real property upon which the facility is located and/or constructed, whether licensed or unlicensed (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Passive Windrow Composting* - composting of wastes in windrows in which wastes are turned at least twice per year (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Pathogens* - organisms or microorganisms including viruses, bacteria, fungi, helminth, and protozoa capable of producing an infection or disease in a susceptible host (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Percent Moisture* - (relative to composting) means the weight of water in a material divided by the total weight of the material, multiplied by 100 (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Percolation* - the downward movement of water or liquids through the pores or spaces of material or soil (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Permeability* - the ability of water or liquids to percolate through a material or soil (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Person* - an individual, firm, joint stock company, partnership, association, private or municipal corporation, government or quasi-governmental corporation, state, commission, political subdivision of a state, any interstate body, or the federal government or any agency or subdivision thereof (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Petroleum Contaminated Soil* - soil that is contaminated from an above-ground or under-ground leak or spill of a petroleum product. The soil must be contaminated with only virgin (unused) petroleum products. Included in this group are the following products:
  1. unused distillate and residual oil including, but not limited to, gasoline, aviation fuels, kerosene, diesel, and Nos. 2, 4, and 6 heating oil;
  2. unused crankcase oil, lubricants, hydraulic oils, penetrant oils, tramp oils, quench oils, and other industrial oils (CRIR 12 030 021(1.3)) [Added March 1998].
- o *pH* - the logarithm of the reciprocal of the hydrogen ion concentration (base 10) and shall be a measure of how acidic (pH less than 7) or basic (pH greater than 7) a material is. A pH of 7 is considered neutral (CRIR 12 030 021(1.3)) [Added March 1998].

- o *Physical Contaminants* - any non-biodegradable material such as plastic, metal, glass, stones or masonry debris (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Phytotoxic* - detrimental, because of toxicity, to plant growth (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Pollutant* - any material or effluent which may alter the chemical, physical, biological, or radiological characteristics and/or integrity of water, including but not limited to, dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, cellar dirt or industrial, municipal, agricultural, or other waste, petroleum or petroleum products, including but not limited to oil (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Pollution* - the entrance or discharge of any pollutant into any waters of the state including groundwaters, in such quantity, either by itself or in connection with other materials so discharged, as to alter the physical, chemical, biological or radiological characteristics and/or integrity of said waters, including change in temperature, taste, color, turbidity or odor, and, to cause or be likely to cause damage to the public, or to any person having a right to use said waters for human consumption, commercial or domestic uses, for boating, fishing or other purposes, or owning property in, under or bordering upon same (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Practice* - the act of disposal of solid waste, as defined in 40 CFR Section 257.2 (1979) and as may be amended (CRIR 12 030 021(1.3)) [Added March 1998].
- *Private Courier Service* - an entity whose primary business is the interstate and/or intrastate transport of packages, parcels and similar items for commercial purposes, and which transports regulated medical waste as less than 10 percent of their total activity in Rhode Island, both in terms of volume and revenue (CRIR 12 030 017(5.00)).
- o *PFRP* - the Process to Further Reduce Pathogens required during the composting process (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Project Engineer* - the official representative of the permittee who is licensed to practice engineering in the State of Rhode Island, who is responsible for observing, documenting, and certifying that activities related to the quality assurance of the construction of the solid waste management facility conform to the engineering design contained in the permit to construct and the regulations specified in these Rules and Regulations. All certifications must bear his seal, his signature, and the date of certification (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Putrescible Waste* - solid waste including, but not limited to, fish waste and other food wastes which contains organic matter capable of being decomposed by microorganisms and that has a tendency to form foul-smelling by-products, during decomposition, and may provide food for vectors or birds (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Putrescible Waste Composting Facility* - a facility, that is required to be registered with the Department, that is designed and operated to receive and compost putrescible waste with or without other waste (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Quality Assurance* - the application of standards and procedures to insure that a product or facility meets or exceeds desired performance criteria, and documentation to verify the results obtained. "Quality assurance" includes "quality control" and refers to actions taken to assure conformity of the construction with the Department approved quality assurance plan, engineering plans, reports, and specifications (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Quality Control* - those actions which provide a means to measure and regulate the characteristics of an item or service to contractual and regulatory requirements. Quality control includes those actions taken before

construction to ensure that the materials chosen and workmanship comply with the Department approved quality control plan, engineering plans, reports and specifications (CRIR 12 030 021(1.3)) [Added March 1998].

- o *Recycling* - the reuse of recovered resources in manufacturing, agriculture, power production or other processes (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Recyclable Material* - any material listed as a recyclable material in the Rhode Island "Rules and Regulations for Reduction and Recycling of Municipal Solid Waste" and the "Rules and Regulations for Reduction and Recycling of Commercial and Non-Municipal Residential Solid Waste" or the Rhode Island Battery Deposit and Control Regulations, or oil subject to the hard-to-dispose-of tax as stated in Chapter 37-15.1 of the Rhode Island General Law (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Recyclables* - any residual recyclable material remaining in a solid waste stream after removal (source segregation) of recyclable material by the original generator(s) of the solid waste, in accordance with the "Rules and Regulations for Reduction and Recycling of Municipal Solid Waste" and the "Rules and Regulations for Reduction and Recycling of Commercial and Non-Municipal Residential Solid Waste" and/or other recyclable material not defined as such or not regulated by these municipal and commercial recycling rules and regulations (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Refining* - (relative to composting) means screening and other procedures (if applicable) which may be required to meet product quality standards and meet market requirements (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Refuse* - (see "Solid Waste") (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Refuse Derived Fuel* - treated solid waste that is used as a fuel.
- o *Refuse Derived Fuel Processing Facility* - the combination of structures, machinery, or devices utilized to reduce or alter the volume of mixed solid waste before delivery to a solid waste incinerator (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Registered Compost Facility* - relative to these Rules and Regulations, a leaf and yard waste composting facility or putrescible waste composting facility, that has received registration acceptance from the Department and shall operate in accordance with the information submitted on the composting facility registration form on file at the Department and in accordance with the Department's Leaf and Yard Waste Composting Rules and Regulations, or Putrescible Waste Composting Rules and Regulations (CRIR 12 030 021(1.3)) [Added March 1998].
- *Regulated Medical Waste* - defined in Section 2.03 of these regulations (see Appendix 9-1) (CRIR 12 030 017(5.00)).
- o *Release* - any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment. For purposes of these Rules and Regulations, release also includes any storage, disposal, or abandonment of any substance or material in a manner which presents a substantial threat of release as herein defined (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Residue* - any solid that remains after completion of solid waste processing including incineration products such as bottom ash, fly ash and grate siftings (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Resource Recovery* - the processing of solid waste in such a way as to produce materials or energy which may be used in manufacturing, agriculture and other processes (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Resource Recovery Facility* - a processing facility which accepts solid waste for the purpose of resource recovery (CRIR 12 030 021(1.3)) [Added March 1998].

- *Run-Off* - any rainwater, leachate, or other liquid that drains over land from any part of a facility (CRIR 12 030 021(1.3)) [Added March 1998].
- *Run-On* - any rainwater, leachate, or other liquid that drains over land onto any part of a facility (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Sanitary Landfill* - a licensed land disposal site employing an engineered method of disposal of solid waste in a manner that absolutely minimizes environmental hazards, including: spreading the solid waste in thin layers, compacting the solid waste to the smallest practical volume; and applying cover material at the end of each operating day, or at such more frequent intervals as may be necessary. A sanitary landfill shall also mean a solid waste landfill (CRIR 12 030 021(1.3)) [Added March 1998].
- *Sanitary Sewer* - the collection system which transports domestic sewage and waste waters to a municipal wastewater treatment facility. Said treatment facility shall include primary and secondary wastewater treatment (CRIR 12 030 017(5.00)).
- o *Screening of Compost* - the process of passing compost through a screen or sieve to remove large particles of organic and inorganic materials, so as to improve the consistency and quality of the end product (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Screenings* - as refers to facilities that separate or process construction and demolition debris, means that material that is separated out of the construction and demolition debris waste stream by passage through or retention on a screen (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Seed Materials* - relative to composting, additives or inocula added to the waste to accelerate or activate the composting process (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Segregated Solid Waste* - material separated from other solid waste for reuse (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Septic Waste* - any solid, liquid, or semi-solid waste removed from septic tanks or cesspools, lagoons, trucks, or other sources (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Sewage Sludge* - a semi-liquid substance consisting of settled sewage solids combined with water and dissolved materials in varying amounts (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Shredding* - breaking up waste materials into small pieces, usually in the form of irregularly shaped strips that is generally performed by mechanical methods (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Size Reduction* - the breaking up of solid waste or other materials into smaller pieces, through abrasion, thermal dissociation, tearing, screening, tumbling, rolling, crushing, chipping, shredding, grinding, shearing, etc., in order to make the waste material easier to separate and relative to composting processes, to increase the surface area for composting (CRIR 12 030 021(1.3)) [Added March 1998].
- *Small Quantity Generator* - a generator of regulated medical waste who generates, transports, or offers for transport less than 50 lb of regulated medical waste in a calendar month (CRIR 12 030 017(5.00)).
- o *Soil Amendment* - a soil additive which stabilizes the soil, improves the resistance to erosion, increases its permeability to air and water, improves its texture and the resistance of the surface to crusting, makes it easier to cultivate, or otherwise improves its quality (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Soil Amendment Ingredient* - a substitute which improves the physical characteristics of the soil (CRIR 12 030 021(1.3)) [Added March 1998].

- o *Solid Waste* - garbage, refuse and other discarded solid materials generated by residential, institutional, commercial, industrial and agricultural sources but does not include solids or dissolved material in domestic sewage or sewage sludge, nor does it include hazardous waste as defined in the Rhode Island Hazardous Waste Management Act, Chapter 23-19.1, nor does it include used asphalt, concrete, Portland concrete cement, or tree stumps. For purposes of these Rules and Regulations, solid waste shall also include non-hazardous liquid, semi-solid, and containerized gaseous wastes, subject to any special conditions contained in these Rules and Regulations (CRIR 12 030 021(1.3)) [Added March 1998].
- *Solid Waste Landfill (SWLF) Unit* - a discrete area of land or an excavation that receives solid waste and that is not a land application unit, surface impoundment, injection well, or a waste pile as defined per 40 CFR 257.2. A SWLF unit may receive all types of RCRA Subtitle D wastes, such as commercial solid waste, C&D wastes, certain non-hazardous sludges, and industrial solid waste. Such a landfill may be public], or privately owned. A SWLF unit may be a new SWLF unit, an existing SWLF unit or a lateral expansion (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Solid Waste Management Facility* - any plant, structure, equipment, real and personal property, except mobile equipment or incinerators with a capacity of less than one thousand (1,000) pounds per hour, owned or operated for the purpose of processing, treating, or disposing of solid waste, but not segregated solid waste (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Source Segregated Recyclable Materials* - useful material which has been separated from the waste stream at the point of generation for the purpose of recovering and recycling these materials (CRIR 12 030 021(1.3)) [Added March 1998].
- *Source Separated (Segregated) Solid Waste* - solid waste that has been segregated into recyclable and non-recyclable materials at the point of generation and in compliance with the "Rules and Regulations for Reduction and Recycling of Municipal Solid Waste" and the "Rules and Regulations for Reduction and Recycling of Commercial, and Non-Municipal Residential Solid Waste" (CRIR 12 030 021(1.3)) [Added March 1998].
- *Spill* - any planned or unplanned release, leaking, pumping, pouring, emitting, or depositing of regulated medical waste in violation of the requirements of these regulations (CRIR 12 030 017(5.00)).
- o *Stability* - the degree to which a composted material can be stored or used without giving rise to nuisances (odors or vectors) or can be applied to the soil without causing problems (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Stabilization* - the second stage of composting (following decomposition) characterized by slow metabolic processes, lower heat production, and the formation of humus-like material (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Staging Area* - the temporary holding area where solid waste is received, mixed, or debagged before moving it to the processing and/or composting area (CRIR 12 030 021(1.3)) [Added March 1998].
- o *State* - the State of Rhode Island (CRIR 12 030 021(1.3)) [Added March 1998].
- *Steam Sterilization* - a treatment method for regulated medical waste utilizing saturated steam within a pressure vessel (known as steam sterilizer, autoclave, or retort) at time lengths and temperatures sufficient to kill infectious agents within the waste (CRIR 12 030 017(5.00)).
- *Storage* - the temporary holding of regulated medical wastes at a designated accumulation area before treatment, destruction, disposal, or transport to another location (CRIR 12 030 017(5.00)).
- o *Surface Public Water Supply* - surface water that supplies piped water for human consumption by means of a system having at least 15 service connections or regularly serving at least 25 individuals for at least 60 days of the year (CRIR 12 030 021(1.3)) [Added March 1998].

- o *Surface Water* - a body of water whose top surface is exposed to the atmosphere including rivers, ponds, lakes, etc. (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Take or Taking* - is defined in the Endangered Species Act, 16 U.S.C. Section 1533, as is or as amended (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Thermophylic* - occurring in a high temperature range, usually 45 to 75 °C (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Toe* - the bottom of the working face or side slope of a land disposal site where deposited solid waste is in contact with virgin ground or a previous lift (CRIR 12 030 021(1.3)) [Added March 1998].
- *Tracking Form* - See Medical Waste Tracking Form (CRIR 12 030 017(5.00)).
- *Transfer Facility* - any transportation-related facility including loading docks, parking areas, storage areas and other similar areas where shipments of regulated medical waste are held during the course of transportation. A transfer facility shall obtain a license for a solid waste management Facility from DEM, Division of Waste Management, as per the Rhode Island Rules and Regulations for Solid Waste Management Facilities (CRIR 12 030 017(5.00)).
- o *Transfer Station* - a solid waste management facility, other than a materials recovery facility or intermediate processing facility that can have a combination of structures, machinery, or devices where solid waste is taken from collection vehicles and ultimately placed in other transportation units for movement to another solid waste management facility (CRIR 12 030 021(1.3)) [Added March 1998].
- *Transportation* - the movement of regulated medical waste from the facility of generation to any intermediate points, and finally to the point of ultimate storage or disposal (CRIR 12 030 017(5.00)).
- *Transporter* - a person engaged in the offsite transportation of regulated medical waste unless said person is otherwise exempted by these regulations (CRIR 12 030 017(5.00)).
- *Treated Regulated Medical Waste* - regulated medical waste that has been treated to substantially reduce or eliminate its potential for causing disease, but which has not yet been destroyed (CRIR 12 030 017(5.00)).
- *Treatment* - when used in the context of regulated medical waste management means any method, technique, or process designed to:
  1. Completely and reliably inactivate vegetative bacteria, fungi, viruses, parasites, and mycobacteria at a 6 Log(10) reduction or greater
  2. Completely and reliably inactivate *Bacillus stearothermophilus* spores or *Bacillus subtilis* spores at a 4 Log(10) reduction or greater (CRIR 12 030 017(5.00)).
- *Treatment Facility* - when used in the context of medical waste refers to any facility that accepts regulated medical waste and changes its biological character or composition so as to substantially reduce or eliminate its potential for causing disease, but does not destroy the medical waste. A treatment facility may include a transfer station, a solid waste management facility, or any other facility that treats regulated medical waste. A treatment facility is also subject to the Rhode Island Rules and Regulations for Solid Waste Management Facilities if the facility is located within the State of Rhode Island (CRIR 12 030 017(5.00)).
- *Universal Biohazard Symbol* - the symbol shown in Appendix VII of these regulations (CRIR 12 030 017(5.00)).
- *Untreated Regulated Medical Waste* - regulated medical waste that has not been treated to substantially reduce or eliminate its potential for causing disease (CRIR 12 030 017(5.00)).

- o *Uppermost Aquifer* - relative to Solid Waste Landfill Units, the geologic formation nearest the natural ground surface that is an aquifer, as well as lower aquifers that are hydraulically interconnected with this aquifer within the facility's property boundary (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Vector* - a carrier, usually an insect or rodent, that is capable of transmitting a pathogen from one organism to another (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Washout* - the carrying away of solid waste by waters of the base flood, as defined in 40 CFR 257.3-1 (1979), as is or as amended (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Waste* - discarded or abandoned solid, semi-solid or liquid material (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Waste Management* - actions taken to effectuate the receipt, storage, transportation, processing for resource recovery, recycling, and/or the ultimate disposal of solid waste (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Waste Management Unit Boundary* - relative to Solid Waste Landfill Units, a vertical surface located at the hydraulically downgradient limit of the unit. This vertical surface extends down into the uppermost aquifer (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Waste Tire Storage and Recycling Facility* - a facility for used vehicle tire recycling or recovery and/or where greater than four hundred used vehicle tires are stored or are intended to be stored (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Water Table* - the upper surface of the zone of saturation in an unconfined aquifer (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Wellhead Protection Area* - the critical portion of a three-dimensional zone, designated by the Director, surrounding a public well or wellfield through which water will move toward and reach such well or wellfield (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Windrow* - an elevated pile of solid waste, formed for the purpose of composting, no larger than any dimension constraints specified in these Rules and Regulations, and which is oriented along the fall line of the compost pad and fits within the perimeter of the compost pad (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Windrow Composting* - the composting of organic materials that are arranged in a series of windrows and which are turned periodically to aerate and mix the waste materials to speed up decomposition and reduce or prevent odors (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Working Face* - that portion of a land disposal site where solid waste is discharged by collection and/or haulage vehicles and is spread and compacted prior to placement of cover material (CRIR 12 030 021(1.3)) [Added March 1998].
- o *Yard Waste* - leaves, grass clippings, weeds, herbaceous garden waste, shrub and tree prunings, and brush (CRIR 12 030 021(1.3)) [Added March 1998].

**SOLID WASTE MANAGEMENT  
GUIDANCE FOR RHODE ISLAND CHECKLIST USERS**

**REFER TO CHECKLIST ITEMS:**

State-Specific Solid Waste Requirements	SO.5.1.RI.
Solid Waste Management Facilities	SO.5.2.RI. through SO.5.6.RI.
Solid Waste Management Facilities: Operating Criteria	SO.5.7.RI. through SO.5.16.RI.
Batteries	SO.5.17.RI. through SO.5.18.RI.
Street Sweepings	SO.5.19.RI.
Transfer Facilities	SO.15.1.RI.
Transportation	SO.20.1.RI.
Recycling	SO.25.1.RI. and SO.25.2.RI.
Resource Recovery Facilities	SO.95.1.RI. through SO.95.14.RI.
Medical Waste	
Generators	SO.105.1.RI. through SO.105.5.RI.
Containers/Labeling/Storage Areas	SO.110.1.RI. through SO.110.9.RI.
Transportation	
From Vessels at Port	SO.115.1.RI.
Offsite Transportation Requirements for Generators	SO.115.2.RI. through SO.115.6.RI.
Permitted Transporters	SO.115.7.RI. through SO.115.17.RI.
Treatment/Disposal	SO.120.1.RI. through SO.120.10.RI.
Documentation	SO.125.1.RI. through SO.125.8.RI.
Landfills	
Solid Waste Landfill Operating Criteria	SO.135.1.RI. through SO.135.17.RI.
New Solid Waste Landfills	SO.135.18.RI.
Construction/Demolition Landfills	SO.140.1.RI. through SO.140.7.RI.
Incinerators	SO.145.1.RI. through SO.145.14.RI.
Waste Tires	SO.160.1.RI. through SO.160.6.RI.
Yard Waste/Composting	
Leaf and Yard Waste Composting	SO.165.1.RI. through SO.165.13.RI.
Putrescible Waste Composting Facilities	SO.165.14.RI. through SO.165.29.RI.
Mixed Solid Waste Composting Facilities	SO.165.30.RI. through SO.165.52.RI.
Other Treatment/Processing Units	
Petroleum Contaminated Soil Processing Facilities	SO.175.1.RI. and SO.175.2.RI.
Closure of Solid Waste Facilities	SO.180.1.RI.

**GUIDANCE FOR APPENDIX USERS**

**REFER TO APPENDIX NUMBERS:**

**REFER TO APPENDIX TITLES:**

9-1

Regulated Medical Waste - Definition and Exemptions

9-2

Incinerator Ash Operating Standards



<b>COMPLIANCE CATEGORY:</b> <b>SOLID WASTE MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<b>SO.5.</b> <b>STATE-SPECIFIC</b> <b>SOLID WASTE</b> <b>REQUIREMENTS</b>	
<b>SO.5.1.RI.</b> Solid waste must be disposed of at facilities licensed by the Department (CRIR 13 000 008(3) and (4)) [Added March 1998].	<p>Verify that all solid waste originating or collected within the State of Rhode Island is disposed at disposal facilities licensed by the Rhode Island Department of Environmental Management.</p> <p>(NOTE: "Disposal" means depositing, casting, throwing, leaving or abandoning a quantity greater than 3 yd<sup>3</sup> of solid waste.)</p>
<b>Solid Waste Management Facilities</b>	
<b>SO.5.2.RI.</b> Solid waste management facilities must be licensed, registered, or approved by the Department (CRIR 12 030 021(1.4.01), (1.4.05) and (1.6.02)) [Revised March 1998].	<p>Verify that the installation/CW facility does not construct, develop, establish, manage, own or maintain a solid waste management facility without approval by the Department.</p> <p>Verify that the installation/CW facility does not operate a solid waste management facility without a license or registration to operate from the Department.</p> <p>Verify that the license or registration is posted in a conspicuous place on the licensed or registered facility, and kept legible and protected from the weather.</p> <p>Verify that solid waste management facilities that accept or store co-mingled recyclable materials, including wood waste and construction and demolition debris, have a license, registration, or approval from the Department.</p> <p>Verify that solid waste management facilities that accumulate material speculatively, or facilities that accept or store co-mingled recyclable materials and operate outside the confines of a closed structure, have a license, registration, or approval from the Department.</p>
<b>SO.5.3.RI.</b> Solid waste management facilities must not cause water pollution (CRIR 12 030 021(1.4.02.b)) [Added March 1998].	<p>Verify that no solid waste management facility or practice, whether licensed or unlicensed, causes pollution of groundwater beyond the licensed or registered area of the facility.</p>

**COMPLIANCE CATEGORY:  
SOLID WASTE MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>SO.5.4.RI.</b> Open burning at solid waste management facilities is prohibited (CRIR 12 030 021(1.4.03.a)) [Added March 1998].</p>	<p>Verify that there is no open burning of any type at a solid waste management facility, whether licensed or unlicensed.</p>
<p><b>SO.5.5.RI.</b> Solid waste management facilities must not emit objectionable odors (CRIR 12 030 021(1.4.03.c)) [Added March 1998].</p>	<p>Verify that no solid waste management facility, licensed or unlicensed, emits any air contaminant or combination of air contaminants which creates an objectionable odor beyond the property line.</p>
<p><b>SO.5.6.RI.</b> Low level radioactive waste must not be disposed of at a solid waste management facility (CRIR 12 030 021(1.4.04)) [Added March 1998].</p>	<p>Verify that low level radioactive waste is not disposed of at a solid waste management facility.</p>
<p><b>Solid Waste Management Facilities: Operating Requirements</b></p>	
<p><b>SO.5.7.RI.</b> Solid waste management facilities must control access (CRIR 12 030 021(1.7.02.a and b)) [Added March 1998].</p>	<p>Verify that access to the solid waste management facility is limited to the hours when authorized operating personnel are on duty at the facility.</p> <p>Verify that additional time is designated before and after normal operating hours to allow for "housekeeping chores" (such as initial and intermediate cover application at sanitary landfills, wind-blown refuse control), and that there is no access to the facility for the acceptance of solid waste during these times.</p> <p>Verify that there are gates at all entrances which are locked when the site is unsupervised.</p> <p>Verify that the solid waste management facility has to limit unauthorized access. fences will be required around the facility</p>
<p><b>SO.5.8.RI.</b> Salvaging at solid</p>	<p>Verify that only controlled removal and handling of waste for utilization is</p>

<p align="center"><b>COMPLIANCE CATEGORY:</b>  <b>SOLID WASTE MANAGEMENT</b>  <b>Rhode Island Supplement</b></p>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> March 1998
<p>waste management facilities must be controlled (CRIR 12 030 021(1.7.03)) [Added March 1998].</p> <p><b>SO.5.9.RI.</b> Bulky wastes at solid waste management facilities must be managed according to specific requirements (CRIR 12 030 021(1.7.04)) [Added March 1998].</p>	<p>allowed.</p> <p>Verify that material to be salvaged is unloaded at a salvage area.</p> <p>Verify that salvaging of refuse is conducted so as not to impede the proper operation of the facility and to insure the health and safety of all persons engaging in salvaging.</p> <p>(NOTE: Bulky wastes include, but are not limited to, clothes washers and dryers, stoves, refrigerators, freezers, microwave ovens, dishwashers, air conditioners, fluorescent lighting fixtures and computer parts potentially containing PCB capacitors.)</p> <p>Verify that solid waste management facilities meet the following requirements for disposal of bulky wastes:</p> <ul style="list-style-type: none"> <li>- all capacitors are removed prior to processing or disposal</li> <li>- once they are removed, capacitors are stored in Department of Transportation approved 55 gallon drums with attachable covers that contain a 6 in. layer of an approved absorbent material at the bottom, and that attachable drum cover is secured at the end of each working day or before the drum is transported by any means</li> <li>- storage, transportation and final disposal of drums containing capacitors is in accordance with all applicable State and Federal regulations including, but not limited to, the Rules and Regulations for Hazardous Waste Management and regulations promulgated in accordance with the Federal Toxic Substances Control Act</li> <li>- procedures for identifying, removing, storing and disposing of PCB capacitors are outlined in the facility's operating plan</li> <li>- procedures for identifying, removing, storing and recycling of chlorinated fluorocarbons (CFCs or freon) are outlined in the facility's operating plan.</li> </ul> <p>(NOTE: Disposal facilities may contract with outside vendors to meet the requirements of this Rule. Details of the contract must be included in the facility's operating plan.)</p>
<p><b>SO.5.10.RI.</b> Solid waste management facilities must control vector populations (CRIR 12 030 021(1.7.05)) [Added March 1998].</p>	<p>Verify that the solid waste management facility minimizes the on-site vector population by periodic application of cover material and by other appropriate techniques that will protect public health.</p> <p>Verify that sanitary conditions are maintained that are unfavorable for the harboring, feeding, and breeding of vectors.</p> <p>Verify that control of insects and rodents, where needed, is effected by means of a</p>

**COMPLIANCE CATEGORY:  
SOLID WASTE MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>SO.5.11.RI.</b> Solid waste management facilities must meet signage requirements (CRIR 12 030 021(1.7.06)) [Added March 1998].</p>	<p>program directed by a professional exterminator utilizing insecticides or rodenticides or other means approved by the Department.</p> <p>Verify that there are signs at the entrance to the solid waste management facility, clearly legible and visible, which contains the following:</p> <ul style="list-style-type: none"> <li>- name of facility and operator</li> <li>- emergency phone number</li> <li>- restricted materials (if applicable)</li> <li>- operating hours.</li> </ul> <p>Verify that there are adequate directional signs to direct drivers to the appropriate unloading area, assist in traffic control, and to regulate speed.</p>
<p><b>SO.5.12.RI.</b> Solid waste management facilities must meet communication requirements (CRIR 12 030 021(1.7.07)) [Added March 1998].</p>	<p>Verify that a suitable means of communication (telephone, two-way radio, etc.) is available at every solid waste management facility.</p>
<p><b>SO.5.13.RI.</b> Solid waste management facilities must control dust and litter (CRIR 12 030 021(1.7.10) and (1.7.11)) [Added March 1998].</p>	<p>Verify that solid waste management facilities control dust at the facility, on access roads to the facility and at all other areas related to the facility's operation.</p> <p>(NOTE: This may be accomplished by spraying small amounts of water over the dust producing area or by the application of suitable chemicals or paving materials on access roads.)</p> <p>Verify that measures are taken to eliminate the scattering of refuse.</p> <p>Verify that the solid waste management facility provides for routine maintenance and general cleanliness of all areas related to the facility's operation.</p>
<p><b>SO.5.14.RI.</b> Solid waste management facilities must meet basic safety requirements (CRIR 12 030 021(1.7.12)) [Added March 1998].</p>	<p>Verify that solid waste management facilities are designed, operated and maintained so as to protect the health and safety of users of the facility and personnel associated with the operation of the facility, and persons in close proximity to the facility.</p> <p>Verify that solid waste management facilities are designed, operated, and</p>

<b>COMPLIANCE CATEGORY:</b> <b>SOLID WASTE MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
	maintained so as not to pose a bird hazard to aircraft.
<b>SO.5.15.RI.</b> Solid waste management facilities must implement approved operating and engineering plans (CRIR 12 030 021(1.7.13)) [Added March 1998].	<p>Verify that solid waste management facilities are operated in conformity with approved operating and engineering plans.</p> <p>(NOTE: Variances from such plans are permitted only after prior written approval from the Director.)</p>
<b>SO.5.16.RI.</b> Solid waste management facilities must have a buffer zone to protect surrounding areas (CRIR 12 030 015)) [Added March 1998].	<p>Verify that solid waste management facilities maintain a buffer zone area that serves to mitigate nuisance impacts such as dust, litter, odor, and noise.</p> <p>Verify that the buffer zone is an area of undeveloped vegetated land retained in its natural undisturbed condition, or created to resemble a naturally occurring vegetated area, or approved equal, that is not used for any facility operations.</p> <p>(NOTE: The buffer zone may be utilized for vegetated drainage controls such as swales or storage ponds.)</p>
<b>Batteries</b>	
<b>SO.5.17.RI.</b> Batteries must be recycled (CRIR 12 070 002 (10)).	<p>Verify that batteries (see definitions) are not disposed of within the state, except:</p> <ul style="list-style-type: none"> <li>- by transportation to an out-of-state recycling facility</li> <li>- by delivery to a facility designated by the Solid Waste Management Corporation, or</li> <li>- by delivery to a privately-operated recycling facility within the State that is licensed by the Director.</li> </ul>
<b>SO.5.18.RI.</b> Battery recyclers must be licensed (CRIR 12 070 002(7)).	<p>Verify that all battery recycling operations have a valid license (renewed annually) from the Department.</p> <p>(NOTE: Any person who converts used batteries into salable batteries (see definitions) by reconditioning must register with the Department.)</p>
<b>Street Sweepings</b>	

<b>COMPLIANCE CATEGORY:</b> <b>SOLID WASTE MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<p><b>SO.5.19.RI.</b> Street sweepings must be managed according to specific criteria (12 030 021, Appendix A) [Added March 1998]</p>	<p>(NOTE: "Street sweepings" means sand that may be mixed with salt used on streets, roads, highways, and parking areas, both public and private, during winter storm operations and that is ultimately swept or cleaned from these areas.)</p> <p>Verify that street sweepings are only reused in one of the following ways:</p> <ul style="list-style-type: none"> <li>- landfill cover material (may require screening)</li> <li>- road base or any base course application that will be covered with an asphalt or concrete layer</li> <li>- backfill for public works construction projects such as drain pipes, culverts, and other drainage structures</li> <li>- mixed with new or virgin sand and salt and reapplied during winter storm operations.</li> </ul> <p>(NOTE: Excess sand from resurfacing projects may be mixed with salt and reused for winter storm operations.)</p> <p>(NOTE: Any use of street sweepings beyond those listed above are subject to the requirements of the Refuse Disposal Act, RIGL 23-18.9-1, and its rules and regulations promulgated.)</p> <p>Verify that street sweepings are not used as an unrestricted clean fill placed in areas that will expose the street sweepings to human contact, including fill on residential properties, public parts or playgrounds.</p> <p>Verify that street sweepings are not used as a fill in environmentally sensitive areas such as near pristine waterways, drinking water watersheds, wellhead protection areas, areas with groundwater classified as GAA, and areas within 200 ft of a private drinking water well, or in any other manner that would be inconsistent with state or federal law or regulation.</p> <p>(NOTE: In some instances, street sweepings may be used as an unrestricted clean fill if analytical testing for petroleum hydrocarbon content, Toxicity Characteristic Leaching Procedure, and total lead content prove that the street sweepings will not be a potential threat to human health or the environment. A sampling plan and analytical results must be submitted to the Department's Office of Waste Management for review and approval of applications for reuse of street sweepings as an unrestricted clean fill. Sampling plans and analytical results will be reviewed on a case by case basis.)</p>

<b>COMPLIANCE CATEGORY:</b> <b>SOLID WASTE MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<b>SO.15.</b> <b>TRANSFER FACILITIES</b>  <b>SO.15.1.RI.</b> Transfer and collection stations must meet specific operating requirements (CRIR 12 030 023(3.2.02) through (3.2.08)) [Added March 1998].	<p>(NOTE: All transfer stations and collection stations must meet these requirements in addition to the general standards for solid waste management facilities; see SO.5.2.RI. through SO.5.16.RI.).)</p> <p>Verify that no unprocessed combustible solid waste is stored for more than 48 h at a station.</p> <p>Verify that all water used in processing the solid waste, and cleaning the facility, as well as all leachate from the refuse collected in storage pits and transfer areas, is disposed of in a manner that will not pollute any source of private or public water supply, or any of the waters or groundwaters of the State.</p> <p>Verify that transfer and collection stations have a water supply, under pressure, suitable for firefighting purposes, or other suitable means approved by the local Fire Chief and by the Director.</p> <p>Verify that transfer operations, refuse storage and collection stations are conducted [sic] within the confines of a protective structure.</p> <p>(NOTE: Non-putrescible salvaged material and bulk items may be stored in closed containers outside the station only with Department permission, and only for a time approved by the Department.)</p> <p>Verify that transfer stations and collection stations have an alternate method of disposal, approved in writing by the Department, with another solid waste management facility for use in the event of equipment failure or forced shutdown.</p> <p>Verify that brush accepted at a transfer station or collection station is chipped within 1 wk after arrival, or transferred for disposal within 48 h of arrival.</p> <p>(NOTE: Chipped brush may be stored at the site indefinitely.)</p>



<b>COMPLIANCE CATEGORY:</b> <b>SOLID WASTE MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<b>SO.20.</b> <b>TRANSPORTATION</b>  <b>SO.20.1.RI.</b> Haulers of solid waste must deliver every load to designated disposal facilities (CRS 13-006-008(5)).	<p>Verify that every load of solid waste originating or collected within the state is delivered to and disposed at a disposal facility or system designated by the Department for disposal.</p> <p>(NOTE: This requirement does not apply to those recyclable materials designated by the Department of Environmental Management and which have already been separated from the solid waste stream for the purpose of reuse or recycling.)</p>



<b>COMPLIANCE CATEGORY:</b> <b>SOLID WASTE MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<p><b>SO.25.</b> <b>RECYCLING</b></p> <p><b>SO.25.1.RI.</b> Recyclable materials must be separated from commercial solid waste and from nonmunicipal residential solid waste (CRIR 12 070 003(6) and (7)) [Revised March 1998].</p>	<p>Verify that the following materials are segregated from commercial solid waste:</p> <ul style="list-style-type: none"> <li>- aluminum</li> <li>- automobiles</li> <li>- coated unbleached kraft beverage carriers</li> <li>- corrugated cardboard</li> <li>- glass food and beverage containers</li> <li>- laser toner cartridges</li> <li>- leaves and yard waste</li> <li>- newspaper</li> <li>- high density polyethylene (HDPE) plastic milk and water containers</li> <li>- office paper</li> <li>- polyethylene terephthalate (PET) plastic soft drink containers</li> <li>- steel, and tin coated steel cans</li> <li>- telephone directories</li> <li>- used lubricating oil</li> <li>- vehicle batteries</li> <li>- white goods</li> <li>- wood waste.</li> </ul> <p>Verify that the following materials are segregated from nonmunicipal residential solid waste and are recycled:</p> <ul style="list-style-type: none"> <li>- aluminum</li> <li>- glass food and beverage containers</li> <li>- leaves and yard wastes</li> <li>- newspaper</li> <li>- high density polyethylene (HDPE) plastic milk and water containers</li> <li>- polyethylene terephthalate (PET) plastic soft drink containers</li> <li>- steel, and tin coated steel cans</li> <li>- telephone directories</li> <li>- white goods.</li> </ul> <p>Verify that segregated materials are kept in a condition to meet minimum market standards.</p> <p>(NOTE: The materials to be included may change from time to time depending upon new technologies, economic conditions, characteristics of the waste stream, environmental effects, or other factors.)</p> <p>Verify that any person who generates commercial solid waste, or accepts responsibility for collecting, storing, or disposing of their tenant's waste,</p>

**COMPLIANCE CATEGORY:  
SOLID WASTE MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>SO.25.2.RI.</b> Recyclable materials must be separated from municipal residential solid waste (CRIR 12 070 001(7)) [Added March 1998].</p>	<p>segregates their solid waste.</p> <p>Verify that segregated recyclables are not combined with solid waste in a manner that renders the material not marketable.</p> <p>Verify that recyclables are segregated from municipal solid waste.</p> <p>Verify that segregated recyclables are not combined with solid waste in a manner that renders the material not marketable.</p> <p>(NOTE: For the purpose of defining those components which must be segregated from the municipal solid waste, the following materials are defined as recyclable:</p> <ul style="list-style-type: none"> <li>- metals: <ul style="list-style-type: none"> <li>- aluminum and tin cans, foil and pie plates</li> <li>- scrap metal</li> <li>- empty aerosol cans</li> <li>- empty paint cans</li> </ul> </li> <li>- white goods: glass, and glass bottles and jars</li> <li>- cartons: milk, juice and aseptic drink cartons and boxes</li> <li>- plastics: <ul style="list-style-type: none"> <li>- HDPE plastic bottles and jug with a #2 recycling symbol on the bottom, excluding tubs (examples include milk jugs, laundry detergent bottles, shampoo bottles, etc.)</li> <li>- PETE plastic containers with a #1 recycling symbol on the bottom (examples include soda and juice bottles, etc.)</li> </ul> </li> <li>- paper <ul style="list-style-type: none"> <li>- mail</li> <li>- magazines</li> <li>- catalogs</li> <li>- phone books</li> <li>- paper books</li> <li>- writing paper</li> <li>- corrugated cardboard</li> <li>- paperboard (examples include shoe boxes, cereal boxes and toilet paper rolls)</li> <li>- newspapers</li> </ul> </li> <li>- textiles: <ul style="list-style-type: none"> <li>- towels</li> <li>- linens</li> <li>- clothing</li> <li>- cloth scrap</li> <li>- stockings</li> <li>- rags</li> <li>- belts</li> <li>- handbags</li> <li>- shoes, excluding women's heels</li> </ul> </li> </ul>

<b>COMPLIANCE CATEGORY:</b> <b>SOLID WASTE MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
	- organics: leaf and yard waste.)



<b>COMPLIANCE CATEGORY:</b> <b>SOLID WASTE MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<b>SO.95.</b> <b>RESOURCE RECOVERY FACILITIES</b>	<p>(NOTE: Resource recovery facilities are subject to the general requirements for solid waste management facilities; see SO.5.2.RI. through SO.5.16.RI.)</p>
<b>SO.95.1.RI.</b> Resource recovery facilities must manage traffic flow to avoid back-ups (CRIR 12 030 024(4.3.01)) [Added March 1998].	<p>Verify that the delivery of solid waste and the removal of residues and recovered products from the site are scheduled to eliminate traffic back-ups and allow for fluid vehicular movement on site.</p>
<b>SO.95.2.RI.</b> Resource recovery facilities must screen waste to prevent acceptance of prohibited wastes (CRIR 12 030 024(4.3.05)) [Added March 1998].	<p>Verify that the resource recovery facility has a waste receiving area control procedures that provide for the screening and inspection of the incoming waste stream:</p> <ul style="list-style-type: none"> <li>- to prevent the acceptance of prohibited or unauthorized waste types</li> <li>- to operate in compliance with the regulations regarding source segregation of recyclable materials and, correspondingly, the maximum recyclable materials content in the incoming waste stream</li> <li>- to remove undesirable or unprocessable materials prior to the initiation of processing, as provided in the approved operating plan.</li> </ul>
<b>SO.95.3.RI.</b> Waste storage at resource recovery facilities must meet specific criteria (CRIR 12 030 024(4.3.07)) [Added March 1998].	<p>Verify that unprocessed, incoming solid waste to be incinerated is stored in pits, bunkers, or similar containment vessels, and kept at levels that prevent spillage or overflow.</p> <p>Verify that all combustible or putrescible waste storage is conducted within the confines of a protective structure.</p> <p>Verify that the capacity of the storage pit is equivalent to at least the rated capacity of the incinerator/combustion chamber for 1 and 1/2 days of operation.</p> <p>Verify that no combustible solid waste is stored for more than 48 h at the facility, except for 3-day holiday weekends.</p>
<b>SO.95.4.RI.</b> Resource recovery facilities must have an alternate disposal method for shutdown periods (CRIR	<p>Verify that the resource recovery facility has an alternate method of disposal, in writing, with another licensed solid waste management facility in the event of equipment failure or forced shutdown which prevents the facility from receiving</p>

<b>COMPLIANCE CATEGORY:</b> <b>SOLID WASTE MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
12 030 024(4.3.08)) [Added March 1998].  <b>SO.95.5.RI.</b> Special recyclables at resource recovery facilities must meet specific criteria (CRIR 12 030 024(4.3.10)) [Added March 1998].  <b>SO.95.6.RI.</b> Resource recovery facilities must minimize odors (CRIR 12 030 024(4.3.11)) [Added March 1998].  <b>SO.95.7.RI.</b> Wastewater and liquid waste at resource recovery facilities must meet management requirements (CRIR 12 030 024(4.3.19)) [Added March 1998].  <b>SO.95.8.RI.</b> Residue and recovered materials at resource recovery facilities must meet storage requirements (CRIR 12 030 024(4.3.21)) [Added March 1998].  <b>SO.95.9.RI.</b> Ash at resource recovery facilities must be managed according to specific	a part of or all of its normal solid waste input.  Verify that incoming solid waste identified as oversized bulky, unprocessable or non-putrescible recyclables (if any) are temporarily stored in closed-top containers at the facility only with the Department's permission, and only for a time period approved by the Department (and as provided for in the approved operating plan).  Verify that suitable measures [undefined] are taken to minimize odors originating at the facility. (NOTE: This may be accomplished by immediate processing or disposing of waste at other solid waste management facilities.) Verify that methods are employed to prevent odors associated with purification of stored waste.  Verify that any wastewater and liquid waste that is not recycled, but instead disposed, is disposed in a manner that does not pollute any source of private or public supply, any of the waters of the state or groundwaters. (NOTE: These wastes include, but are not limited to, water used to quench the incinerator residue, scrub the flue gas, clean the facility, liquid waste from the refuse collected in the storage pit, and tipping floor run-off.)  Verify that facility ash residues, effluent (if any), and recovered materials (if any) are stored in bunkers, pits, bins or similar leakproof containment vessels, and kept at levels that prevent leakage, spillage, or overflow.  Verify that resource recovery facility meet operating standards for ash sampling, testing, characterization, management, disposal, and removal as provided in

**COMPLIANCE CATEGORY:  
SOLID WASTE MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
requirements (CRIR 12 030 024(4.3.22)) [Added March 1998].	Appendix 9-2.
<p><b>SO.95.10.RI.</b> Resource recovery facilities must meet maintenance and inspection requirements (CRIR 12 030 024(4.3.23)) [Added March 1998].</p>	<p>Verify that all systems and equipment are maintained in a manner that facilitates proper operation and minimizes system downtime.</p> <p>Verify that immediately following the initiation of facility operation, facility personnel begin routine inspections for operating effectiveness and equipment deterioration or malfunction.</p> <p>Verify that written records of inspection are maintained and made available for review by the Department.</p> <p>Verify that a planned maintenance and overhaul schedule for major equipment is established and executed during facility operation.</p>
<p><b>SO.95.11.RI.</b> Resource recovery facilities must meet fire protection and emergency requirements (CRIR 12 030 024(4.3.27) and (4.3.28)) [Added March 1998].</p>	<p>Verify that the resource recovery facility does not pose a fire hazard to persons or property.</p> <p>Verify that all buildings have a suitable quantity of water at sufficient pressures, on each floor, suitable for firefighting purposes and approved by the local fire authority.</p> <p>Verify that the resource recovery facility has arrangements, in writing, from nearby fire, police, rescue, medical services, and a hazardous waste emergency response company and hazardous waste transporter to provide emergency services in case of fires, explosions, hazardous waste incidents or other similar emergencies.</p>
<p><b>SO.95.12.RI.</b> Resource recovery facilities must meet staffing requirements (CRIR 12 030 024(4.3.29) and (4.3.30)) [Added March 1998].</p>	<p>Verify that the resource recovery facility maintains sufficient personnel during each operating shift to assure the proper and orderly operation of all components and systems, along with the ability to handle all routine maintenance requirements.</p> <p>Verify that personnel have sufficient educational background, employment experience and training to enable them to perform their duties in a competent and safe manner.</p> <p>Verify that each operating shift has a designated shift supervisor or equivalent to direct and implement operational decisions during that shift.</p>

**COMPLIANCE CATEGORY:  
SOLID WASTE MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>SO.95.13.RI.</b> Resource recovery facilities must meet training requirements (CRIR 12 030 024(4.3.31) and (4.3.32)) [Added March 1998].</p>	<p>Verify that resource recovery facilities provide a comprehensive training program covering normal job responsibilities and procedures, emergency situations, and procedures and safety issues to facility employees.</p> <p>Verify that employees involved with the operation and maintenance of the facility receive training at least annually.</p> <p>(NOTE: These include, but are not limited to, the chief facility operator, shift supervisors, control room operators, ash handlers, maintenance personnel, and crane/load handlers.)</p> <p>Verify that facility-specific training and operating manuals are used for training personnel.</p> <p>Verify that the manuals are kept up to date, with any necessary revisions made at least annually.</p> <p>Verify that the manuals are kept in a readily accessible location and made available for inspection by the Department.</p> <p>Verify that the initial review of the training and operating manuals is conducted prior to assumption of operational job duties.</p> <p>Verify that the chief facility operator and the shift supervisor for each operating shift obtain and keep current ASME operator certification or an equivalent certification approved by the Department.</p> <p>Verify that the resource recovery facility does not operate at any time without the presence of a certified shift supervisor or other certified operator.</p> <p>Verify that training records that document the type and amount of training received by current facility personnel are maintained at the facility in accordance with the approved operating plan.</p>
<p><b>SO.95.14.RI.</b> Resource recovery facilities must meet contingency planning requirements (CRIR 12 030 024(4.3.33)) [Added March 1998].</p>	<p>Verify that resource recovery facilities develop contingency plans and procedures to handle fires, explosions, hazardous waste incidents, and similar emergencies, in conjunction with supporting local authorities (fire, police, rescue, and medical groups), prior to facility operation.</p> <p>Verify that training and practice to handle these emergencies is periodically provided during the operation of the facility.</p>

<b>COMPLIANCE CATEGORY:</b> <b>SOLID WASTE MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>Revised March 1998</b>
<b>MEDICAL WASTE</b>  <b>SO.105. Generators</b>  <b>SO.105.1.RI.</b> Generators of medical waste must determine if the waste is a regulated medical waste (CRIR 12 030 017(6.01.a) and (6.02)).  <b>SO.105.2.RI.</b> Generators of regulated medical waste must meet employee notification and training requirements (CRIR 12 030 017(6.01.c), (7.01.d), and (8.01.b)) [Revised March 1998].  <b>SO.105.3.RI.</b> Generators of regulated medical waste must be registered (CRIR 12 030 017(16.01 and 16.02)) [Revised March 1998].	<p>Verify that generators of medical waste determine if it is a regulated medical waste.</p> <p>Verify that generators meet the medical waste requirements from the time and location that an item becomes regulated medical waste.</p> <p>Verify that any wastes that contain regulated medical waste mixed with general solid waste are managed as regulated medical wastes.</p> <p>Verify that any regulated medical wastes which meet the definition of hazardous waste, or which are mixed with hazardous wastes are managed as hazardous waste in accordance with the most current DEM Rules and Regulations for Hazardous Waste Management (see chapter 4, Hazardous Waste Management).</p> <p>Verify that generators notify, in writing, all employees involved with the identification and segregation, packaging and containment, and storage of regulated medical wastes of the requirements for identification, packaging, and storage of regulated medical waste.</p> <p>Verify that this training/notification is accomplished through the use of a medical waste procedure manual or appropriate training materials.</p> <p>(NOTE: Any person whose primary business activity or purpose is the diagnosis (including testing and laboratory analysis), treatment, or immunization of human beings or animals, in research pertaining thereto, in the preparation of human remains for burial or cremation, in the production or testing of biologicals, or in the development of pharmaceuticals engages in the generation of regulated medical waste.)</p> <p>Verify that a generator of regulated medical waste is registered with the Director and has been issued a regulated medical waste generator registration number.</p> <p>(NOTE: For the purpose of these regulations, a person is considered to be a single generator, even if he utilizes more than 1 site in the course of its operation.)</p>

**COMPLIANCE CATEGORY:  
SOLID WASTE MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: Revised March 1998</b>
<p><b>SO.105.4.RI.</b> Generators of regulated medical waste must determine the quantities generated and transported per calendar month (CRIR 12 030 017(13.01.c) and (13.02.a and b)).</p> <p><b>SO.105.5.RI.</b> Generators must segregate regulated medical waste (CRIR 12 030 017(6.03)).</p>	<p>Verify that the generator determines the quantity of regulated medical wastes generated in a calendar month and the quantity transported (or offered for transport) offsite for treatment, destruction, or disposal.</p> <p>Verify that generators segregate regulated medical waste from the general waste stream to the maximum extent practicable to ensure the special handling and treatment required by these requirements.</p> <p>Verify that separation from the general waste stream occurs at the point of generation.</p> <p>Verify that generators segregate regulated medical wastes into the following groups:</p> <ul style="list-style-type: none"> <li>- sharps and unused sharps, including sharps containing residual fluid</li> <li>- fluids in bulk quantities (quantities greater than 20 cm<sup>3</sup>)</li> <li>- other regulated medical wastes.</li> </ul> <p>Verify that regulated medical wastes are placed in suitable containers at the source of origin (e.g., patient room, operating room, etc.).</p> <p>Verify that, if other solid waste is placed in the same containers as regulated medical waste, then the entire contents of the containers are managed as regulated medical waste.</p> <p>(NOTE: If a generator manages all solid waste as regulated medical waste, the identification and segregation requirements need not be met, provided the entire solid waste stream of this generator is managed as regulated medical waste and meets all remaining handling and management requirements.)</p>

<b>COMPLIANCE CATEGORY:</b> <b>SOLID WASTE MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<b>MEDICAL WASTE</b>  <b>SO.110.</b> <b>Containers/Labeling/</b> <b>Storage Areas</b>  <b>SO.110.1.RI.</b> Generators of regulated medical waste must meet general packaging and containment requirements (CRIR 12 030 017(7.01.a through c)).  <b>SO.110.2.RI.</b> Sharps must be packaged in appropriate containers (CRIR 12 030 017(7.02)).	<p>(NOTE: Sharps containers, currently in use, are exempt from the generator storage requirements provided they meet all the requirements in SO.110.1.RI and SO.110.2.RI (Sections 7.01 and 7.02) (CRIR 12 030 017(8.02)).)</p> <p>Verify that all regulated medical waste is placed in a container or containers that are:</p> <ul style="list-style-type: none"> <li>- rigid</li> <li>- leak-resistant</li> <li>- impervious to moisture</li> <li>- of a strength sufficient to prevent tearing or bursting under normal conditions of use and handling</li> <li>- sealed to prevent leakage during transport.</li> </ul> <p>Verify that materials for packaging are strong enough to remain intact during whatever type of handling, storage, and transport the container(s) may undergo.</p> <p>Verify that mechanical compaction of regulated medical waste is not conducted prior to treatment or disposal, unless the mechanical compaction and treatment are part of a single, self-contained process that does not place employees or the public at risk of exposure to untreated regulated medical waste.</p> <p>Verify that all sharps and unused sharps, including sharps with residual fluids, are packaged in containers that are puncture-resistant.</p> <p>Verify that any sharps placed into a puncture-resistant container are not manipulated inside the container and are not removed from the puncture-resistant container under any circumstances.</p> <p>Verify that the sharps are placed directly into the container without recapping, clipping, bending, or breaking unless:</p> <ul style="list-style-type: none"> <li>- the employer can demonstrate that the requirements of this section are not feasible for a specific medical procedure, or</li> <li>- the recapping or needle removal is accomplished through the use of a mechanical device or one-handed technique specifically approved in writing by the Director.</li> </ul> <p>Verify that sharps containers are assembled and utilized as intended by the manufacturer.</p>

**COMPLIANCE CATEGORY:  
SOLID WASTE MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>SO.110.3.RI.</b> Medical waste fluids in bulk quantities must meet specific packaging and containment requirements (CRIR 12 030 017(7.03)).</p>	<p>Verify that sharps containers with openings large enough to allow entry of any human hand are subject to any additional physical or administrative controls necessary to prevent access by the public during normal conditions of use.</p> <p>Verify that the container is sealable in a manner that prevents spillage of contents during transport.</p> <p>Verify that the contents are identified as regulated medical waste by the display of the Universal Biohazard Symbol on the outside of the container.</p> <p>Verify that human blood and blood products and body fluids in quantities greater than 20 cm<sup>3</sup> are packaged in containers that are break resistant and tightly lidded or stoppered.</p> <p>Verify that the contents are identified as regulated medical waste by the display of the Universal Biohazard Symbol on the outside of the container.</p>
<p><b>SO.110.4.RI.</b> Other regulated medical wastes must meet specific packaging and containment requirements (CRIR 12 030 017(7.04)).</p>	<p>(NOTE: Other regulated medical waste include, but are not limited to, cultures and stocks, nonliquid pathological wastes, nonliquid animal wastes, nonliquid isolation wastes, materials saturated with blood.)</p> <p>Verify that regulated medical wastes which are not sharps or unused sharps or fluids in bulk quantities, are packaged in either rigid containers that are designed to be tightly sealable, or in plastic bags that meet the following requirements:</p> <ul style="list-style-type: none"> <li>- the plastic bags are impervious to moisture and are tear-resistant</li> <li>- the plastic bags are a distinctive red or orange color, or clear (i.e., without color)</li> <li>- if a clear bag is used, then the universal biohazard symbol is appropriately displayed on the bag</li> <li>- in single plastic bags are used, the bags are constructed of material of sufficient single thickness strength to pass the 165 g dropped dart impact resistance test as prescribed by the American Society for Testing and Materials (ASTM) Dart Test (ASTM Standard #D- 1709-91) and certified by the manufacturer, or they are double bagged (i.e., the use of two plastic bags, one inside the other).</li> </ul> <p>Verify that a container (e.g., a step-can) used onsite to hold regulated medical waste has either a red or orange plastic bag plainly visible or, if a clear bag is used, the universal biohazard symbol is displayed on the container as well as on the bag.</p>

**COMPLIANCE CATEGORY:  
SOLID WASTE MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>SO.110.5.RI.</b> Storage of regulated medical waste must meet general requirements (CRIR 12 030 017(8.03)).</p>	<p>Verify that the regulated medical waste is stored in a manner and location which maintains the integrity of the packaging and provides protection from flooding and adverse weather conditions such as rain, snow, ice, sleet, hail, and wind.</p> <p>Verify that all areas used for the storage of regulated medical waste are constructed of finished materials that are impermeable to moisture and capable of being easily maintained in a sanitary condition.</p> <p>Verify that onsite storage areas are restricted to authorized personnel.</p> <p>Verify that outdoor storage areas, such as dumpsters, sheds, tractor trailers, or other storage areas which contain regulated medical waste, are securely locked in order to prevent unauthorized access.</p> <p>Verify that the regulated medical waste is stored in a manner that prevents access by, and does not provide a breeding place or a food source for, insects, rodents, or other animals.</p> <p>Verify that the storage area is clearly identified as containing regulated medical waste through the posting of universal biohazard signs or signs containing the following wording: MEDICAL WASTE or REGULATED MEDICAL WASTE.</p> <p>Verify that the regulated medical waste is maintained in a nonputrescent state.</p> <p>Verify that total storage of regulated medical waste does not exceed 50 lb or the average quantity of regulated medical waste generated over 5 consecutive calendar days (whichever condition allows storage for the longer period of time).</p> <p>Verify that regulated medical waste is not compacted, ground, or subject to violent mechanical stress onsite unless:</p> <ul style="list-style-type: none"> <li>- the regulated medical waste has been treated prior to compaction, grinding, or other mechanical stressor</li> <li>- the compaction, grinding, or mechanical stress and the treatment are part of a single, self-contained process that does not place employees or the public at risk of exposure to untreated regulated medical waste.</li> </ul>
<p><b>SO.110.6.RI.</b> Reuse of regulated medical waste containers must meet decontamination and training requirements (CRIR 12 030 017(9.02)).</p>	<p>(NOTE: All nonrigid packaging and inner liners used for the packaging of medical waste must be managed as regulated medical waste and not reused.)</p> <p>Verify that any container used for the storage or transport of regulated medical waste and designated for reuse once emptied, is decontaminated after each use.</p> <p>(NOTE: Decontamination can be accomplished by chemical disinfection, steam sterilization, thermal inactivation, or other suitable process that is appropriate both for the type of container to be decontaminated and for the type of</p>

**COMPLIANCE CATEGORY:  
SOLID WASTE MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>SO.110.7.RI.</b> Onsite transport of regulated medical waste must comply with specific requirements (CRIR 12 030 017(10.00)).</p>	<p>contamination present.)</p> <p>Verify that generators ensure the safe transport of regulated medical wastes within the generating facility (onsite), and that:</p> <ul style="list-style-type: none"> <li>- regulated medical waste is properly packaged to ensure containment of the waste</li> <li>- containers and packages containing regulated medical wastes are sealed to prevent leakage or spillage while in transport</li> <li>- the handling, transfer, and loading of packages and containers of regulated medical wastes is performed in a manner that does not destroy the integrity of the packaging</li> <li>- regulated medical waste is not subjected to violent mechanical stress during onsite transport.</li> </ul> <p>Verify that wheeled carts are used for the transport of packages or containers of regulated medical wastes if packages or containers will be moved more than a short distance, or if these packages or containers cannot be easily handled by one person (due to weight, size, shape, bulkiness, etc.), regardless of the distance to be moved.</p> <p>Verify that carts used for the transport of packages and containers of regulated medical wastes are sturdy and are routinely cleaned and disinfected, and immediately cleaned and disinfected after use if the cart has been contaminated by medical waste.</p> <p>Verify that items other than regulated medical waste are not placed in the same cart with regulated medical waste at any point during onsite transportation.</p> <p>Verify that any regulated medical waste which is contained in plastic bags is not moved or transported in mechanical devices, dumb waiters, or chutes, unless the chutes are designed to prevent accumulation of wastes in corners and edges and are lined with materials which can be easily cleaned (e.g., stainless steel).</p> <p>Verify that there is no compaction of packages and containers of regulated medical wastes prior to or during onsite transport.</p> <p>Verify that generators notify in writing all employees involved with the onsite transport of regulated medical wastes of the above provisions.</p> <p>Verify that this notification is accomplished through the use of a medical waste procedure manual or appropriate training materials</p> <p>Verify that if any container used for the storage or transport of regulated medical waste is for any reason not capable of being rendered free of contamination, the container is managed (i.e., labeled and treated or disposed of) as regulated</p>

<b>COMPLIANCE CATEGORY:</b> <b>SOLID WASTE MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<p><b>SO.110.8.RI.</b> Regulated medical waste transported offsite must comply with labeling and marking requirements (CRIR 12 030 017(11.00)).</p>	<p>medical waste.</p> <p>Verify that all containers used for the packaging and containment of regulated medical wastes are labeled with the universal biological hazard symbol, or are clearly labeled as containing regulated medical waste.</p> <p>Verify that generators notify in writing all employees involved with the labeling and marking of regulated medical waste for offsite transport of these provisions .</p> <p>Verify that this training notification is accomplished through the use of a medical waste procedure manual or appropriate training materials.</p> <p>Verify that generator and intermediate handlers mark each package or container of regulated medical waste, before the waste is transported offsite, on the outermost surface of each package or container with indelible lettering on a water-resistant identification tag of sufficient dimension that contains the following information:</p> <ul style="list-style-type: none"> <li>- generator's or intermediate handler's name</li> <li>- generator's or intermediate handler's address</li> <li>- transporter's name (if applicable)</li> <li>- transporter's Rhode Island Regulated Medical Waste Transporter Permit number (if applicable)</li> <li>- date of shipment (date of offsite transport)</li> <li>- identification of contents as medical waste.</li> </ul> <p>Verify that, when regulated medical waste is transported by more than one transporter, each transporter (other than the transporter who accepted the waste from the generator) affixes a water-resistant identification tag on the outside of the secondary container.</p> <p>Verify that the tag is at least 3 in. x 5 in. and is affixed so as not to obscure previously affixed identification tags.</p> <p>Verify that, if the generator has used inner containers, including sharps and fluid containers, each inner container is marked with indelible ink or imprinted with water-resistant tags containing the following information:</p> <ul style="list-style-type: none"> <li>- generator's or intermediate handler's name</li> <li>- generator's or intermediate handler's address</li> <li>- identification of type of contents of container as medical waste.</li> </ul>
<p><b>SO.110.9.RI.</b> Employees must be notified and trained</p>	<p>Verify that generators notify, in writing, all employees involved with the storage of regulated medical wastes or the decontamination of reusable containers for</p>

**COMPLIANCE CATEGORY:  
SOLID WASTE MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
in the appropriate storage of regulated medical waste (CRIR 12 030 017(8.01) and (9.01)).	regulated medical wastes of the provisions for storage and decontamination of regulated medical waste containers.  Verify that this training/notification is accomplished through the use of a medical waste procedure manual or appropriate training materials.

<b>COMPLIANCE CATEGORY:</b> <b>SOLID WASTE MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<b>MEDICAL WASTE</b>  <b>SO.115.</b> <b>Transportation</b>  <b>From Vessels at Port</b>	
<b>SO.115.1.RI.</b> Vessels at port must meet the requirements for offsite transportation of regulated medical waste (CRIR 12 030 017(13.01(d))).  <b>Offsite Transportation Requirements for Generators</b>	<p>Verify that vessels at port in the state comply with the requirements for offsite transportation of regulated medical waste by generators.</p> <p>(NOTE: The owner/operator of the vessel and the person removing or accepting the waste are considered cogenerators of the waste.)</p>
<b>SO.115.2.RI.</b> Generators of at least 50 lb/mo of regulated medical waste must use a transporter with a Rhode Island Regulated Medical Waste Permit for offsite transportation (CRIR 12 030 017(13.02.a and c)).	<p>Verify that generators use a transporter with a Rhode Island Regulated Medical Waste Permit.</p> <p>(NOTE: Generators are exempt from the requirement to use transporters who have a Rhode Island Regulated Medical Waste Transporter Permit number when transporting regulated medical waste from the original generation point to a central collection point, or between satellite facilities, provided they meet all of the following conditions:</p> <ul style="list-style-type: none"> <li>- the regulated medical waste is transported by the generator, or the generator's authorized employee, in a vehicle owned by the generator or the employee</li> <li>- the regulated medical waste is brought to a central collection point or treatment facility owned or operated by the generator</li> <li>- generators (i.e., those who generate and transport or offer for transport more than 50 lb of regulated medical waste in a calendar month) with multiple locations shall apply for a license or variance from RIDEM</li> <li>- the original generation point and the central collection point or treatment facility are located in the state</li> <li>- the generator compiles and maintains a shipment log at each generation point and each central collection point.</li> </ul>
<b>SO.115.3.RI.</b> Small quantity	<p>Verify that regulated medical waste transportation meets one of the following</p>

<p align="center"><b>COMPLIANCE CATEGORY:</b>  <b>SOLID WASTE MANAGEMENT</b>  <b>Rhode Island Supplement</b></p>	
<p><b>REGULATORY REQUIREMENTS:</b></p>	<p><b>REVIEWER CHECKS:</b>  <b>March 1998</b></p>
<p>generators of regulated medical waste must comply with specific requirements (CRIR 12 030 017(13.02.b)).</p>	<p>conditions:</p> <ul style="list-style-type: none"> <li>- it is transported to an intermediate handler or a destination facility with which the generator has a written agreement to accept the regulated medical waste, or</li> <li>- the generator is transporting the regulated medical waste from the original generation point to a satellite facility or central collection point owned by the generator.</li> </ul> <p>Verify that small quantity generators who transport regulated medical waste between satellite facilities or to a central collection point have a variance from the Rhode Island Department of Environmental Management, Division of Waste Management.</p> <p>Verify that regulated medical waste transported under a variance from the Division meets the following requirements:</p> <ul style="list-style-type: none"> <li>- it is transported by the generator, or an authorized employee, in a vehicle owned by the generator or authorized employee</li> <li>- the generator compiles a shipment log</li> <li>- the generator submits semiannual reports to the Director for the periods of 1 January to 30 June and 1 July to 31 December of each year.</li> </ul> <p>(NOTE: Semiannual reports must be received by the Director within 45 days of the end of the reporting period. The generator may use a copy of the report form found in Appendix VIII of the regulations or use any other type of report form as long as it includes the following information:</p> <ul style="list-style-type: none"> <li>- name of generator (company name)</li> <li>- address of generator</li> <li>- contact person</li> <li>- telephone number</li> <li>- generator type</li> <li>- quantity (by weight) of treated and untreated regulated medical waste transported offsite, during the reporting period, for which a medical waste tracking form was not used</li> <li>- name and address of facility to which medical waste was transported.)</li> </ul>
<p><b>SO.115.4.RI.</b> Small quantity generators must meet specific requirements for shipments of sharps and unused sharps ((CRIR 12 030 017(13.02.d)).</p>	<p>(NOTE: Shipments of sharps and unused sharps through the U.S. Postal Service or private courier service are exempt from the requirement to use a transporter that has a Rhode Island regulated medical waste transporter permit number under the conditions specified here.)</p> <p>Verify that small quantity generators shipping sharps and unused sharps by U.S. Postal Service or private courier service meet the following conditions:</p> <ul style="list-style-type: none"> <li>- the package is sent certified mail, return receipt requested or an initial</li> </ul>

**COMPLIANCE CATEGORY:  
SOLID WASTE MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
	<p>receipt that serves as a tracking document (indicating to whom the package was delivered, signature, date, and address where delivered)</p> <ul style="list-style-type: none"> <li>- the generator compiles a shipment log and maintains the original receipt and the returned registered mail receipt</li> <li>- the generator submits semiannual reports to the Director for the periods of 1 January to 30 June and 1 July to 31 December of each year.</li> </ul> <p>(NOTE: Semiannual reports must be received by the Director within 45 days of the end of the reporting period. The generator may use a copy of the report form found in Appendix VIII of the regulations or use any other type of report form as long as it includes the following information:</p> <ul style="list-style-type: none"> <li>- name of generator (company name)</li> <li>- address of generator</li> <li>- contact person</li> <li>- telephone number</li> <li>- generator type</li> <li>- quantity (by weight) of treated and untreated regulated medical waste sent by the U.S. Postal Service or private courier service, during the reporting period</li> <li>- transported offsite, during the reporting period, for which a medical waste tracking form was not used</li> <li>- name and address of facility to which medical waste was transported.)</li> </ul>
<p><b>SO.115.5.RI.</b> Generators that offer regulated medical waste for transportation must use a tracking form (CRIR 12 030 017(13.03)).</p>	<p>Verify that a generator which transports or offers for transport regulated medical waste for offsite treatment or disposal prepares a tracking form.</p> <p>Verify that the generator prepares the number of tracking form copies that will provide the generator, each transporter, and each intermediate handler with one copy, and the destination facility with two copies.</p> <p>Verify that the generator also:</p> <ul style="list-style-type: none"> <li>- signs the certification statement on the tracking form by hand</li> <li>- obtains the handwritten signature of the initial transporter and includes the date of acceptance on the tracking form</li> <li>- retains one copy.</li> </ul>
<p><b>SO.115.6.RI.</b> Generators of regulated medical waste must submit exception/discrepancy reports in certain instances (CRIR 12 030 017(13.06)).</p>	<p>Verify that a generator contacts the destination facility, transporter, and intermediate handler, as appropriate, to determine the status of any tracked waste if he does not receive a copy of the completed tracking form with the handwritten signature of the owner/operator of the destination facility within 35 days of the date the waste was accepted by the initial transporter.</p>

**COMPLIANCE CATEGORY:  
SOLID WASTE MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>Permitted Transporters</b></p> <p><b>SO.115.7.RI.</b> Offsite transportation of regulated medical waste must comply with permitting, registration and training requirements (CRIR 12 030 017(14.01 and</p>	<p>Verify that a generator submits an Exception Report to the Director if he has not received a completed copy of the tracking form signed by the owner/operator of the destination facility within 45 days of the date the waste was accepted by the initial transporter.</p> <p>Verify that the Exception Report is postmarked on or before the 46th day and includes:</p> <ul style="list-style-type: none"> <li>- a legible copy of the original tracking form for which the generator does not have confirmation of delivery</li> <li>- a cover letter signed by the generator or his authorized representative explaining the efforts taken to locate the regulated medical waste and the results of those efforts</li> <li>- a copy of the exception report shall be kept by the generator for a period of at least 3 yr from the due date of the report.</li> </ul> <p>Verify that a generator also submits a Discrepancy Report to the Director if there are any discrepancies between the information contained on the original generator receipt [yellow-copy 4] and the signed/completed generator copy [white-copy 1] that are not documented in Block 23 of the Medical Waste Tracking Form.</p> <p>Verify that the Discrepancy Report is postmarked no later than 5 working days from the date that the signed/completed generator copy [white-copy 1] is received from the destination facility:</p> <p>Verify that the Discrepancy Report includes:</p> <ul style="list-style-type: none"> <li>- a legible copy of both the original generator receipt and the signed/completed generator copy received from the destination facility</li> <li>- a cover letter signed by the generator or his authorized representative identifying the discrepancies that were not documented in Block 23 of the Medical Waste Tracking Form.</li> </ul> <p>Verify that a copy of the Discrepancy Report is kept by the generator for a period of 3 yr from the date of the report.</p> <p>Verify that no person or other legal entity engages in transportation of regulated medical waste in or on the land or waters of the state unless they have been issued a permit by the Director.</p> <p>(NOTE: The following are exempt from the requirements of this section:</p> <ul style="list-style-type: none"> <li>- generators of regulated medical waste that transport regulated medical waste but are SQG</li> </ul>

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT Rhode Island Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 1998
14.02)).	<ul style="list-style-type: none"> <li>- persons transporting household medical waste</li> <li>- onsite transportation of regulated medical waste.)</li> </ul> <p>Verify that transporters of regulated medical waste comply with offsite generator transportation requirements when the transporter consolidates two or more shipments of regulated medical waste onto a single tracking form.</p> <p>Verify that transporters also comply with storage and packaging regulations (see section SO.110.RI.) if the transporter:</p> <ul style="list-style-type: none"> <li>- stores regulated medical waste in the course of transport</li> <li>- removes regulated medical waste from a reusable container</li> <li>- modifies packaging of regulated medical waste.</li> </ul> <p>Verify that transporters and transfer facilities notify in writing all employees involved with offsite transportation of regulated medical waste.</p> <p>Verify that this training/notification is accomplished through the use of a medical waste procedure manual or appropriate training materials.</p>
<p><b>SO.115.8.RI.</b> Regulated medical waste transporter vehicles must comply with specific requirements (CRIR 12 030 017(14.03.d)) [Citation Revised March 1998].</p>	<p>(NOTE: The requirements are not applicable to the use of vehicles that collect and transport regulated medical waste in emergency situations which present a threat to public health and safety.)</p> <p>Verify that vehicles used to transport regulated medical waste in the state, at a minimum, meet the following requirements:</p> <ul style="list-style-type: none"> <li>- the vehicle has a fully enclosed, leak-resistant cargo-carrying body</li> <li>- the transporter maintains the cargo-carrying body in good sanitary condition</li> <li>- the cargo-carrying body is secured if left unattended</li> <li>- the regulated medical waste is not subject to mechanical stress or compaction during loading and unloading or during transit.</li> </ul> <p>Verify that vehicles used to transport regulated medical waste have the following identification in letters no less than 3 in. in height on both sides and the back of the cargo-carrying body:</p> <ul style="list-style-type: none"> <li>- the name of the transporter</li> <li>- the transporter's Regulated Medical Waste Transporter Permit number</li> <li>- a universal biohazard sign or the following words imprinted:             <ul style="list-style-type: none"> <li>- MEDICAL WASTE</li> <li>- REGULATED MEDICAL WASTE.</li> </ul> </li> </ul> <p>Verify that a transporter does not transport regulated medical waste in the same container with other solid waste unless the transporter manages both as regulated</p>

**COMPLIANCE CATEGORY:  
SOLID WASTE MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>SO.115.9.RI.</b> Transporters of regulated medical waste must meet specific requirements before accepting medical waste for transportation (CRIR 12 030 017(14.04.a, b and d)) [Revised March 1998].</p> <p><b>SO.115.10.RI.</b> Transporters delivering regulated medical waste must comply with tracking form requirements</p>	<p>medical waste in compliance with these regulations.</p> <p>Verify that the transporter does not use the cargo-carrying compartment of the vehicle to transport anything except regulated medical waste.</p> <p>(NOTE: Hazardous waste may be transported with regulated medical waste if the following criteria are met:</p> <ul style="list-style-type: none"> <li>- the transporter vehicle is permitted to carry hazardous waste</li> <li>- the regulated medical waste and the hazardous waste are packaged separately</li> <li>- the hazardous waste is properly labeled, marked, packaged, and handled in accordance with all applicable laws and regulations</li> <li>- the transporter vehicle is identified, in accordance with all applicable regulations, as carrying both regulated medical waste and hazardous waste.)</li> </ul> <p>Verify that transporters do not accept for transport any regulated medical waste unless the regulated medical waste is packaged in accordance with Section 7.00 of these regulations and labeled in accordance with Section 11.00 of these regulations (see section SO.110.RI.).</p> <p>Verify that transporters do not accept regulated medical waste for transport unless it is accompanied by a tracking form (or exempt from these requirements).</p> <p>Verify that before accepting regulated medical waste that is accompanied by a tracking form, a transporter:</p> <ul style="list-style-type: none"> <li>- verifies that the tracking form accurately reflects the number of containers and the weight in pounds of all treated and untreated regulated medical waste accepted</li> <li>- on all copies of the tracking form, signs and indicates the date the waste was accepted from the generator or prior transporter, as applicable</li> <li>- if the transporter is the first transporter of the waste, returns a copy of the signed and dated tracking form to the generator before accepting the waste</li> <li>- if the transporter is a subsequent transporter of the waste, returns a copy of the signed and dated tracking form to the prior transporter before accepting the waste</li> <li>- returns a signed copy of the tracking form to the generator before leaving the generator's site.</li> <li>- retains one copy of the signed and dated tracking form.</li> </ul> <p>Verify that a transporter, other than a rail transporter, ensures that the tracking form accompanies the regulated medical waste during transport.</p> <p>Verify that when a transporter, other than a rail transporter, delivers regulated</p>

**COMPLIANCE CATEGORY:  
SOLID WASTE MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
(CRIR 12 030 017(14.05.a through c)).	<p>medical waste to another transporter or a destination facility, the delivering transporter:</p> <ul style="list-style-type: none"> <li>- on all copies of the tracking form, obtains the date of delivery and the handwritten signature of the accepting transporter or the operator of the destination facility</li> <li>- retains one copy of the signed and dated tracking form</li> <li>- gives the remaining copies of the signed and dated tracking form to the accepting transporter or to an authorized facility representative.</li> </ul> <p>Verify that when a transporter, other than a rail transporter, delivers regulated medical waste to a transporter or facility outside the state, the delivering transporter:</p> <ul style="list-style-type: none"> <li>- verifies that the waste has been delivered to the accepting transporter or operator of the facility</li> <li>- on all copies of the tracking form, has the accepting transporter or facility operator write his signature and the date he accepts the waste, or if the accepting transporter or facility operator will not provide his signature, the delivering transporter writes his own signature and the date he delivers the waste</li> <li>- retains one copy of the signed and dated tracking form</li> <li>- gives the remaining copies of the tracking form to the accepting transporter, intermediate handler, or destination facility.</li> </ul>
<p><b>SO.115.11.RI.</b> Transporters consolidating or remanifesting regulated medical waste must comply with tracking form requirements (CRIR 12 030 017(14.05.e and h)).</p>	<p>Verify that transporters complete a tracking form for all regulated medical waste received from SQGs (i.e., in shipments of less than 50 lb that are not accompanied by a tracking form).</p> <p>(NOTE: A transporter may choose to consolidate or remanifest to a single tracking form all shipments of regulated medical waste less than 220 lb).</p> <p>Verify that, when the transporter receives the signed tracking form, initiated by the transporter, from the destination facility, and the regulated medical waste was accompanied by a tracking form originated by a generator, the transporter:</p> <ul style="list-style-type: none"> <li>- attaches a copy of the tracking form signed by the destination facility to the generator's original tracking form</li> <li>- retains a copy of each tracking form</li> <li>- returns a copy of each tracking form to the generator within 35 days of the date that the generator offered the documented regulated medical waste for transport.</li> </ul> <p>Verify that for each tracking form initiated, either by accepting waste from small quantity generators or by consolidating tracking forms onto a new one, the transporter maintains a consolidation log indicating all shipments consolidated or</p>

**COMPLIANCE CATEGORY:  
SOLID WASTE MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
	<p>remanifested on that form.</p> <p>Verify that the log accompanies the tracking form and includes the following information:</p> <ul style="list-style-type: none"> <li>- name of each generator</li> <li>- the generator's address</li> <li>- date the regulated medical waste was originally shipped by the generator</li> <li>- quantity of regulated medical waste (i.e., number of containers and weight in lb) by waste category (i.e., untreated or treated) shipped by each generator and</li> <li>- the names, Regulated Medical Transporter Permit or identification numbers of all previous transporters or, if not applicable, the transporters' addresses.</li> </ul> <p>(NOTE: A transporter accepting a shipment from a SQG need not comply with these offsite transportation requirements provided that:</p> <ul style="list-style-type: none"> <li>- the transporter compiles a log, containing the following information for each shipment of regulated medical waste</li> <li>- the transporter carries this log in the vehicle while transporting such regulated medical waste to a second transporter</li> <li>- the transporter dates and signs the generator's log required under Section 13.05(b) of these regulations</li> <li>- the transporter complies with the consolidation requirements.)</li> </ul>
<p><b>SO.115.12.RI.</b> Transporters of regulated medical waste must comply with tracking form distribution requirements (CRIR 12 030 017(14.05.g)).</p>	<p>Verify that when a transporter receives a copy of a tracking form which he initiated as a result of shipment consolidation from a facility, and which the operator of the facility signed and dated, the transporter:</p> <ul style="list-style-type: none"> <li>- attaches a copy of the tracking form received from the treatment, destruction, or destination facility to the copy of the tracking form originally prepared by the generator</li> <li>- retains a copy of the tracking form received from said facility</li> </ul>
<p><b>SO.115.13.RI.</b> Transporters of regulated medical waste must affix an identifying label on each package (CRIR 12 030 017(14.06)).</p>	<p>Verify that when regulated medical waste is handled by more than one transporter, each subsequent transporter attaches a water resistant identification tag below the generator's marking on the outer surface of the packaging, so that it does not obscure the generator's or previous transporter's markings.</p> <p>Verify that the transporter taking possession of the shipment ensures that the tag contains the following information:</p> <ul style="list-style-type: none"> <li>- name of transporter taking possession (receiving) of the regulated medical waste</li> <li>- transporter Regulated Medical Waste Transporter Permit number</li> </ul>

<p align="center"><b>COMPLIANCE CATEGORY:</b>  <b>SOLID WASTE MANAGEMENT</b>  <b>Rhode Island Supplement</b></p>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> March 1998
<p><b>SO.115.14.RI.</b> Transporters must comply with delivery requirements for regulated medical waste (CRIR 12 030 017(14.07)).</p>	<p>- date of receipt.</p> <p>Verify that a transporter delivers the entire quantity of regulated medical waste that he accepts from a generator or prior transporter to:</p> <ul style="list-style-type: none"> <li>- the destination facility identified on the tracking form</li> <li>- the next transporter, if any.</li> </ul> <p>Verify that, if regulated medical waste cannot be delivered per above, a medical waste transporter:</p> <ul style="list-style-type: none"> <li>- contacts the generator for further directions</li> <li>- revises the tracking form according to the generator's instructions</li> <li>- delivers the entire quantity of regulated medical waste according to the generator's instructions.</li> </ul> <p>Verify that, if any vehicle owned or operated by a medical waste transporter is involved in a spill of regulated medical waste, or if the vehicle is involved in an accident which renders the vehicle in noncompliance, the transporter immediately notifies the Director of DEM.</p>
<p><b>SO.115.15.RI.</b> Transporters of regulated medical waste must comply with spill procedures and response requirements (CRIR 12 030 017(14.08.a and b)) [Revised March 1998].</p>	<p>Verify that all transporters and intermediate handlers have a written procedure, approved by the Department, to govern the management and decontamination of regulated medical waste spills.</p> <p>Verify that all transporters and intermediate handlers have at each site, including each vehicle used to transport regulated medical waste, appropriate equipment and supplies for cleaning up a spill of regulated medical waste and the equipment and supplied.</p> <p>Verify that approved routine decontamination procedures are used for soiled surfaces, including:</p> <ul style="list-style-type: none"> <li>- exposure to hot water of at least 82 °C (180 °F) for a minimum 15 s</li> <li>- rinsing with or immersion in a chemical disinfectant</li> <li>- rinsing with or immersion in a 1:10 dilution of 5 percent sodium hypochlorite solution.</li> </ul> <p>Verify that any chemical disinfectant used for decontamination is registered with the USEPA as hospital disinfectants that are tuberculocidal, fungicidal, virucidal and effective against HIV-1.</p> <p>Verify that, in all cases of spills, the transporter immediately takes steps to</p>

**COMPLIANCE CATEGORY:  
SOLID WASTE MANAGEMENT  
Rhode Island Supplement**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 1998
<p>SO.115.16.RI. The contents of spill containment and cleanup kits must meet specific requirements (CRIR 12 030 017(14.08.b.1)).</p>	<p>contain and clean up the regulated medical waste.</p> <p>Verify that in addition to the immediate notification requirement, the transporter, within 48 h of a spill of regulated medical waste, submits an accident report to the Director on forms provided by the Director for this purpose.</p> <p>Verify that a copy of the report is kept on file for a minimum of 3 yr at the same location as the Regulated Medical Waste Transporter Permit.</p> <p>Verify that a spill containment and cleanup kit is kept in each area utilized for the collection, transfer, storage, packaging, or other such handling of regulated medical wastes.</p> <p>Verify that all vehicles operating under a Rhode Island Regulated Medical Waste Transporter Permit carry a spill containment and cleanup kit in the vehicle whenever regulated medical waste is transported.</p> <p>Verify that personnel are trained in the use of the kit.</p> <p>Verify that the kit contains absorbent material with a rated capacity of 1 gal of liquid for every cubic foot of regulated medical waste that is normally managed in the area for which the kit is provided, or 10 gal (whichever is less).</p> <p>Verify that the kit contains 1 gal of disinfectant in a sprayer capable of dispersing its charge in a mist and in a stream (the disinfectant must be of hospital grade and be effective against mycobacteria).</p> <p>Verify that the kit contains 50 plastic infectious regulation waste bags, accompanied by sealing tape (or devices for sealing), and appropriate labels.</p> <p>Verify that plastic bags are large enough to overpack any box or other container normally used for regulated medical waste handling by the facility.</p> <p>Verify that the kit contains two sets of overalls, gloves, boots, caps, and protective eye covering, all of which are disposable and impermeable to liquids.</p> <p>Verify that overalls, boots and caps are oversized or fitted to medical waste handlers and are made of a moisture resistant or moisture proof material.</p> <p>Verify that gloves for handling regulated medical waste where sharps are not present are durable and moisture resistant or moisture proof.</p> <p>Verify that gloves for handling sharps are puncture resistant or puncture proof in addition to liquid resistant.</p> <p>Verify that boots are of durable moisture-resistant or moisture-proof material</p>

<b>COMPLIANCE CATEGORY:</b> <b>SOLID WASTE MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<b>SO.115.17.RI.</b> Transporters may store regulated medical waste under certain conditions (CRIR 12 030 017(14.12)).	<p>which will not tear under the stress of walking.</p> <p>Verify that, at a minimum, protective breathing devices include surgical masks.</p> <p>Verify that the kit contains tape for sealing wrists and ankles.</p> <p>Verify that the kit contains scoop shovels, push brooms, and buckets.</p> <p>Verify that the kit contains a first-aid kit, fire extinguisher, lights, and other appropriate safety equipment.</p> <p>Verify that the kit contains suitable means of communication for summoning aid in an emergency.</p> <p>Verify that the kit contains an approved copy of the Spill Management Plan.</p>
	<p>Verify that medical waste transfer stations comply with transfer station requirements and are licensed.</p> <p>Verify that temporary storage facilities keep an accurate log of all regulated medical waste shipped in and out of the facility.</p> <p>Verify that, if a medical waste transporter stores regulated medical waste in the same vehicle used to pick up and transport medical waste from a generator:</p> <ul style="list-style-type: none"> <li>- the vehicle is parked at a location approved in the transporter permit and under the direct control of the transporter</li> <li>- the location where the vehicle is parked is secured to prevent access by any person other than the transporter and the transporter's employees</li> <li>- the vehicle is parked at a location for no longer than 48 consecutive h, excluding weekends and state holidays</li> <li>- the storage meets all applicable requirements</li> <li>- the vehicle meets all applicable requirements</li> <li>- no regulated medical waste is loaded on to or off of the vehicle during storage of regulated medical waste.</li> </ul> <p>(NOTE: Temporary storage in the transporting vehicle at the location of a breakdown of the vehicle is allowed only if the transporter notifies the Department of the location of the vehicle and the estimated time for repairs. During the period of the break down, the cargo body of the vehicle is locked and is not accessible to anyone except authorized personnel.)</p>

<b>COMPLIANCE CATEGORY:</b> <b>SOLID WASTE MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<b>MEDICAL WASTE</b>  <b>SO.120.</b> <b>Treatment/Disposal</b>	<p>(NOTE: The provisions of this section apply to owners and operators of facilities that treat, destroy, or dispose of regulated medical waste as follows:</p> <ul style="list-style-type: none"> <li>- destination facilities</li> <li>- intermediate handlers</li> <li>- generators that receive regulated medical waste accompanied by a tracking form.</li> </ul> <p>Persons who treat or destroy regulated medical waste that has been generated onsite, and do not treat or destroy regulated medical waste that has been generated offsite, are exempt from the provisions of Sections 15.02(a), 15.02(b), 15.03, 15.04 and 15.05 of these regulations (see below).)</p>
<b>SO.120.1.RI.</b> Storage, treatment or destruction of regulated medical waste requires a license (CRIR 12 030 017(17.01)).	<p>Verify that there is no storage, treatment, or destruction of regulated medical waste without a license by the Director.</p> <p>(NOTE: The following activities do not constitute practices requiring licensure under this section:</p> <ul style="list-style-type: none"> <li>- storage by a generator before regulated medical waste is treated or destroyed onsite, or offered for transport offsite</li> <li>- treatment or destruction of regulated medical waste by the generator of that waste if the treatment or destruction:             <ul style="list-style-type: none"> <li>- is carried out at a generating facility owned and operated by the generator of the regulated medical waste</li> <li>- does not include regulated medical waste generated by any other person or legal entity.)</li> </ul> </li> </ul>
<b>SO.120.2.RI.</b> Regulated medical waste destruction facilities must comply with spill procedures and response requirements (CRIR 12 030 017(14.08.a and b)).	<p>Verify that all destruction facilities have a written procedure approved by the Department, to govern the management and decontamination of regulated medical waste spills.</p> <p>Verify that approved routine decontamination procedures are used for soiled surfaces, including:</p> <ul style="list-style-type: none"> <li>- exposure to hot water of at least 82 °C (180 °F) for a minimum 15 s</li> <li>- rinsing with or immersion in a chemical disinfectant</li> <li>- rinsing with or immersion in a 1:10 dilution of 5 percent sodium hypochlorite solution.</li> </ul> <p>Verify that any chemical disinfectant used for decontamination is registered with the USEPA as hospital disinfectants that are tuberculocidal, fungicidal, virucidal, and effective against HIV-1.</p>

**COMPLIANCE CATEGORY:  
SOLID WASTE MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>SO.120.3.RI.</b> The contents of spill containment and cleanup kits must meet specific requirements (CRIR 12 030 017(15.02.d through e)).</p>	<p>Verify that the destruction facilities makes provisions for prompt control of spills and other emergencies.</p> <p>Verify that a spill containment and cleanup kit is kept in each area utilized for the collection, transfer, storage, treatment, packaging, or other such handling of regulated medical wastes.</p> <p>Verify that the kit contains absorbent material with a rated capacity of 1 gal of liquid for every cubic foot of regulated medical waste that is normally managed in that area for which the kit is provided or 10 gal, whichever is less.</p> <p>Verify that the kit contains 1 gal of disinfectant in a sprayer capable of dispersing its charge in a mist and in a stream (the disinfectant must be of hospital grade and be effective against mycobacteria).</p> <p>Verify that the kit contains 50 plastic infectious regulation waste bags, accompanied by sealing tape (or devices for sealing), and appropriate labels.</p> <p>Verify that plastic bags are large enough to overpack any box or other container normally used for regulated medical waste handling by the facility.</p> <p>Verify that the kit contains two sets of overalls, gloves, boots, caps, and protective eye covering, all of which are disposable and impermeable to liquids.</p> <p>Verify that overalls, boots, and caps are oversized or fitted to medical waste handlers and are made of a moisture resistant or moisture proof material.</p> <p>Verify that gloves for handling regulated medical waste where sharps are not present are durable and moisture resistant or moisture proof.</p> <p>Verify that gloves for handling sharps are puncture resistant or puncture proof in addition to liquid resistant.</p> <p>Verify that boots are of durable moisture resistant or moisture proof material which will not tear under the stress of walking.</p> <p>Verify that, at a minimum, protective breathing devices include surgical masks.</p> <p>Verify that the kit contains tape for sealing wrists and ankles.</p> <p>Verify that the kit contains scoop shovels, push brooms, and buckets.</p> <p>Verify that the kit contains a first-aid kit (unless emergency medical care is available on the premises), fire extinguisher, lights, and other appropriate safety equipment.</p>

**COMPLIANCE CATEGORY:  
SOLID WASTE MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>SO.120.4.RI.</b> All regulated medical waste treatment or destination facilities must meet specific spill procedures (CRIR 12 030 017(15.02.f)).</p>	<p>Verify that disinfectants used in cleaning up a spill are registered with the USEPA as hospital disinfectants that are also tuberculocidal, fungicidal, virucidal and effective against HIV-1.</p> <p>(NOTE: Approved as a disinfectant is a 1:10 dilution of 5 percent sodium hypochlorite solution.)</p> <p>Verify that the cleanup crew utilizes the protective equipment in the spill kit during the spill cleanup operation.</p> <p>Verify that access to the spill area is limited to authorized personnel.</p> <p>Verify that broken containers and spillage is placed inside overpack bags in the kit.</p> <p>Verify that the area is disinfected and other cleanup steps are taken as deemed necessary.</p> <p>Verify that any absorbent materials used to disinfect the area are considered regulated medical waste.</p> <p>Verify that nondisposable items are cleaned and disinfected.</p> <p>Verify that protective equipment and disposal items are removed and managed as regulated medical waste.</p> <p>Verify that necessary steps are taken to replenish containment and the cleanup kit.</p> <p>Verify that emergency assistance is called if necessary.</p> <p>Verify that all regulated medical waste spills or accidents are reported to the Director immediately, unless the quantity of the spills are less than 1 ft<sup>3</sup> of waste.</p> <p>Verify that a medical waste spill report is submitted to the Director within 48 h, using the spill or accident report form prescribed by the Director.</p> <p>Verify that any regulated medical waste spill outside the limited access areas is reported to the Director.</p> <p>Verify that a copy of the report is on file at the treatment facility for a minimum of 3 yr.</p> <p>Verify that all spills are recorded in a log that is maintained for a minimum of 3 yr from the date of the last entry in the log.</p>



**COMPLIANCE CATEGORY:  
SOLID WASTE MANAGEMENT  
Rhode Island Supplement**

**REGULATORY  
REQUIREMENTS:**

**REVIEWER CHECKS:  
March 1998**

**SO.120.5.RI.** Onsite steam sterilization must comply with operating standards (CRIR 12 030 017(12.04.a through f)).

Verify that the sterilizers are dedicated for waste only.

Verify that the sterilizers are operated in accordance with the manufacturer's specifications for waste in regard to time, temperature, pressure and capacity.

(NOTE: If no manufacturer's specifications for waste exist, or if another combination of time, temperature, pressure, and capacity is used, such combination are to be proven to the Director, on the basis of thorough tests. These tests include a test to determine the capacity of this combination to completely and reliably inactivate *Bacillus stearothermophilus* spores at a 4 Log(10) reduction or greater.)

Verify that the regulated medical waste is steam sterilized in its primary container.

Verify that the primary container is placed in the sterilization chamber so that sufficient space is provided between the chamber walls and the container to allow the steam to surround the container.

Verify that the primary container is sealed loosely enough to allow the steam to penetrate the contents of the container, unless a self-venting bag is used.

Verify that caps and stoppers on bottles are loosened to facilitate steam penetration.

Verify that, unless a steam sterilizer is equipped to continuously monitor and record temperatures during the entire length of each sterilization cycle, the operator of the sterilizer affixes temperature-sensitive tape to the primary container which will indicate when the desired temperature is reached.

Verify that regulated medical waste is not considered treated regulated medical waste unless:

- the temperature-sensitive tape indicates that a temperature of at least 250 °F (121 °C) was reached during the sterilization process
- a temperature determined experimentally proven to be effective (see above) was reached during the sterilization process
- a temperature recommended by the manufacturer of the sterilizer that is sufficient to render the infectious agents within the waste treated, was reached during the sterilization process
- in addition to attaining the specific temperature, the temperature is maintained for a period of time sufficient to completely and reliably inactivate *Bacillus stearothermophilus* spores at a 4 Log(10) reduction or greater.

**COMPLIANCE CATEGORY:  
SOLID WASTE MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
	<p>Verify that a record of the treatment temperature is kept.</p> <p>(NOTE: Steam sterilizers purchased after 14 July 1994, and used for waste sterilization, must automatically and continuously monitor and record temperatures throughout the entire length of each steam sterilization cycle.)</p> <p>Verify that this record is kept for 3 yr from the date the waste was treated.</p> <p>Verify that at least once during every 40 h of operation, tests are conducted to evaluate the effectiveness of the sterilization process, including tests of the capacity of such process to completely and reliably inactivate <i>Bacillus stearothermophilus</i> spores at a 4 Log(10) reduction or greater.</p> <p>Verify that, at least once during every 40 h of operation, a sterilization unit is evaluated to determine whether it is operating properly with respect to temperature and pressure.</p> <p>Verify that a log is maintained recording the dates and results of such evaluations and the dates of calibration.</p> <p>Verify that the log is kept for at least 3 yr from the date of the last entry in the log.</p>
<p><b>SO.120.6.RI.</b> A treatment, destruction, or destination facility must comply with medical waste acceptance limitations (CRIR 12 030 017(15.02 (a) through (c))).</p>	<p>Verify that a treatment, destruction, and destination facility does not accept regulated medical waste which is not packaged, labeled, and marked in accordance with applicable requirements.</p> <p>Verify that a treatment, destruction, and destination facilities does not accept regulated medical waste that is not accompanied by a tracking form.</p>
<p><b>SO.120.7.RI.</b> All treatment, destruction, and destination facilities must comply with storage requirements (CRIR 12 030 017(15.02 (h))).</p>	<p>Verify that regulated medical waste is stored in a manner and location that maintains the integrity of the packaging.</p> <p>Verify that regulated medical wastes is maintained in a nonputrescent state, using refrigeration or freezing when necessary.</p> <p>Verify that outside storage areas containing regulated medical wastes are locked to prevent unauthorized access.</p> <p>Verify that regulated medical waste storage areas not limited to authorized personnel are designated by posting a sign stating, WARNING: REGULATED MEDICALWASTE, or displaying the international biohazard symbol at all points of access</p>

<b>COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<b>SO.120.8.RI.</b> Destination facilities must meet regulated medical waste tracking form requirements (CRIR 12 030 017(15.03)).	<p>Verify that regulated medical waste is stored in a manner and location that is not accessible to animals and does not provide a breeding place or a food source for insects or rodents.</p> <p>Verify that no regulated medical waste is stored more than 14 day.</p> <p>Verify that no facility stores more than seven times its total maximum daily capacity for treatment or destruction of regulated medical waste.</p> <p>Verify that all facilities formulate a plan and submit a copy to the Director for approval that:</p> <ul style="list-style-type: none"> <li>- addresses compliance with the requirements set forth, and provides for the removal of regulated medical waste to an alternate facility in the event that the facility is not in compliance storage capacity regulations</li> <li>- is maintained at the treatment facility</li> <li>- designates an emergency coordinator and an alternate emergency coordinator.</li> </ul> <p>Verify that the facility implements the appropriate sections of its plan under the following conditions:</p> <ul style="list-style-type: none"> <li>- its maximum storage capacity for regulated medical waste has been exceeded</li> <li>- the storage time for regulated medical waste has exceeded 14 day</li> <li>- the facility operator anticipates exceeding the maximum storage capacity or the 14-day storage time limit for regulated medical waste.</li> </ul>
	<p>Verify that, when a destination facility receives regulated medical waste accompanied by a tracking form, the owner/operator:</p> <ul style="list-style-type: none"> <li>- signs and dates each copy of the tracking form to certify that the regulated medical waste listed on the tracking form was received</li> <li>- notes any discrepancies on the tracking form</li> <li>- immediately gives the transporter at least one copy of the signed tracking form</li> <li>- sends a copy of the tracking form to the generator (or to the transporter or intermediate handler that initiated the tracking form) within 15 days of the delivery</li> <li>- retains a copy of each tracking form.</li> </ul> <p>Verify that, if the facility is a destination facility, it sends a copy of the signed and dated tracking form to the generator within 15 days after the delivery.</p> <p>Verify that, if the owner/operator has not received the tracking form within 15 days of delivery, a copy of the signed and dated shipping papers is sent to the</p>

<b>COMPLIANCE CATEGORY:</b> <b>SOLID WASTE MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<p><b>SO.120.9.RI.</b> Tracking form discrepancies must be managed according to specific requirements (CRIR 12 030 017(15.04)).</p>	<p>party initiating the tracking form.</p> <p>Verify that the tracking form (or shipping papers if signed in lieu of the tracking form) is retained for at least 3 yr from the date of acceptance of the regulated medical waste.</p> <p>(NOTE: Tracking form discrepancies are:</p> <ul style="list-style-type: none"> <li>- for containers: <ul style="list-style-type: none"> <li>- any variation in piece count such as a discrepancy of one box, pail, or drum in a truckload</li> <li>- any variation in the actual weight of any single container of regulated medical waste that differs from its listed weight by more than 10 percent</li> <li>- any variation in the actual weight of all containers in a shipment of regulated medical waste that differs from the total weight listed on the Medical Waste Tracking Form by more than 5 percent.</li> </ul> </li> <li>- for untreated or treated waste: discrepancies in number of containers for each category of regulated medical waste as described on the label imprinted or affixed to the outer surface of the package</li> <li>- for packaging that is broken, torn, or leaking</li> <li>- regulated medical waste that arrives at an intermediate handler or a destination facility unaccompanied by a tracking form, where the owner/operator knows the form is required, or for which the tracking form is incomplete or not signed.)</li> </ul> <p>Verify that, upon discovering a discrepancy, the treatment, destruction, and destination facility attempts to resolve the discrepancy with the waste generator, the transporter or the intermediate handler.</p> <p>Verify that, if the discrepancy is not resolved, the owner/operator submits a letter, within 15 days of receiving the waste, to the Director.</p> <p>Verify that the letter describes the nature of the discrepancy and the attempts the owner/operator has undertaken to reconcile it.</p> <p>Verify that the owner/operator includes a legible copy of the tracking form or shipping papers in question with the letter.</p> <p>Verify that, if the discrepancy is missing a tracking form, the report specifies the quantity of waste received, the transporter, and the generator(s).</p>
<p><b>SO.120.10.RI.</b> Treatment, destruction, and disposal of regulated medical waste must</p>	<p>(NOTE: Once regulated medical waste has been both treated and destroyed, its residue may be disposed of as nonregulated medical waste unless that residue meets the definition of hazardous waste as defined by DEM Rules and</p>

**COMPLIANCE CATEGORY:  
SOLID WASTE MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p>be performed using approved technologies (CRIR 12 030 017(15.07)).</p>	<p>Regulations for Hazardous Waste Management. Untreated regulated medical waste may be transported offsite for treatment and destruction, treated onsite and transported offsite for destruction, or treated and destroyed onsite. Regulated medical waste cannot undergo mechanical destruction before it has been treated, unless the mechanical destruction and treatment are part of a single, self-contained process that does not place employees or the public at risk of exposure to untreated regulated medical waste.)</p> <p>Verify that liquid regulated medical wastes, including body fluids, human blood, and blood products are disposed of by one of the following methods:</p> <ul style="list-style-type: none"> <li>- incineration</li> <li>- with approval, discharge into a sanitary sewer system that has a secondary wastewater treatment facility</li> <li>- discharge into an Individual Sewage Disposal System (ISDS), provided that chemical disinfectants or preservatives are not added to the body fluids, human blood or blood products prior to discharge and that no more than 10 gal of body fluids, human blood or blood products are discharged in an ISDS during a 24-h period.</li> </ul> <p>Verify that human pathological wastes (not including body fluids) and animal pathological wastes are incinerated.</p> <p>Verify that sharps and used sharps are disposed of by one of the following methods:</p> <ul style="list-style-type: none"> <li>- incineration</li> <li>- chemical disinfection, utilizing chemicals specifically approved by EPA/FIFRA for disinfection of medical waste, with or followed by grinding or shredding</li> <li>- steam sterilization followed by grinding or shredding.</li> </ul> <p>Verify that other regulated medical wastes (including, but not limited to, cultures and stocks, items saturated or dripping or caked with human blood) are disposed of by one of the following methods:</p> <ul style="list-style-type: none"> <li>- incineration</li> <li>- chemical disinfection, utilizing chemicals specifically approved by EPA/FIFRA for disinfection of medical waste, with or followed by grinding or shredding</li> <li>- steam sterilization followed by grinding or shredding.</li> </ul>

**COMPLIANCE CATEGORY:  
SOLID WASTE MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>MEDICAL WASTE</b></p> <p><b>SO.125.</b> <b>Documentation</b></p> <p><b>SO.125.1.RI.</b> Small quantity generators of regulated medical waste must submit semiannual reports to the Director (CRIR 12 030 017(13.07)).</p> <p><b>SO.125.2.RI.</b> Onsite incineration of regulated medical waste must meet specific recordkeeping requirements (CRIR 12 030 017(12.02)).</p>	<p>(NOTE: Small quantity generators exempt from using the tracking form and maintaining shipment logs are required to submit semiannual reports.)</p> <p>Verify that the small quantity generator semiannual report includes the following information:</p> <ul style="list-style-type: none"> <li>- the generator's name, address, and type of facility</li> <li>- the name and telephone number of a contact person</li> <li>- the name and address of the facilities to which medical waste was transported</li> <li>- the quantity of treated regulated medical waste transported to each facility</li> <li>- the quantity of untreated regulated medical waste transported to each facility</li> <li>- the dates of the reporting period.</li> </ul> <p>Verify that the reports are submitted to the Director for the periods of 1 January to 30 June and 1 July to 31 December of each year.</p> <p>Verify that the reports are submit within 45 days of the end of the reporting period.</p> <p>Verify that generators keep an operating log at their incineration facility which includes the following information:</p> <ul style="list-style-type: none"> <li>- the date each incineration cycle began</li> <li>- the length of the incineration cycle</li> <li>- the total quantity of waste incinerated per incineration cycle</li> <li>- an estimate of the quantity of regulated medical waste incinerated per incineration cycle.</li> </ul> <p>Verify that the generators retain the operating log for at least 3 yr from the date of the last entry in the log.</p> <p>Verify that generators with onsite incinerators that accept regulated medical waste from small quantity generators maintain the following information for each shipment of regulated medical waste accepted:</p> <ul style="list-style-type: none"> <li>- the date the waste was accepted</li> <li>- the name and address of the generator who originated the shipment</li> </ul>

<b>COMPLIANCE CATEGORY:</b> <b>SOLID WASTE MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<p><b>SO.125.3.RI.</b> Onsite incineration of regulated medical waste must comply with reporting requirements (CRIR 12 030 017(12.03)).</p>	<ul style="list-style-type: none"> <li>- the total weight of the regulated medical waste accepted from the originating generator</li> <li>- the signature of the individual accepting the waste.</li> </ul> <p>Verify that onsite incinerators which accept regulated medical waste from generators subject to the tracking form requirements keep copies of all tracking forms for a period of 3 yr from the date they accepted the waste.</p> <p>Verify that an onsite incinerator prepares and submits copies of the onsite incinerator report to the Rhode Island Department of Environmental Management.</p> <p>Verify that the report summarizes information collected in the operating log and contains the following information:</p> <ul style="list-style-type: none"> <li>- facility name, mailing address, and location</li> <li>- facility type (e.g., hospital, laboratory)</li> <li>- contact person</li> <li>- waste feed information</li> <li>- the total number of incinerators at the facility that incinerates regulated medical waste and information concerning each incinerator.</li> </ul> <p>Verify that each report contains the following certification, signed by the facility owner or by owner's designee: "I certify that I have personally examined and am familiar with the information submitted in this and all attached documents, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete."</p> <p>Verify that generators retain a copy of the onsite incinerator report form for 3 yr from the date of submission.</p> <p>(NOTE: Reports are to cover the period of 1 January to 30 June of each year and from 1 July to 31 December of each year. These reports are due 45 days after the end of the reporting period.)</p>
<p><b>SO.125.4.RI.</b> Medical waste sterilization unit operators must maintain logs (CRIR 12 030 017(12.04 (g) and ((h))).</p>	<p>Verify that, for each sterilization unit, a log is maintained which contains, as a minimum, the following information for each use:</p> <ul style="list-style-type: none"> <li>- date</li> <li>- time</li> <li>- operator</li> <li>- type and approximate amount of regulated medical waste treated</li> <li>- sterilization pressure reading</li> </ul>

**COMPLIANCE CATEGORY:  
SOLID WASTE MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p>SO.125.5.RI. Generators must comply with transportation recordkeeping requirements (CRIR 12 030 017(13.05)).</p>	<ul style="list-style-type: none"> <li>- maximum temperature obtained during the sterilization process</li> <li>- the length of time that the sterilization pressure and temperature were maintained.</li> </ul> <p>Verify that the log is kept at least 3 yr from the date the waste was treated.</p> <p>Verify that each generator retains both the original generator receipt [yellow-copy 4] and the completed generator copy [white-copy 1] of each signed tracking form, for at least 3 yr from the date the waste was accepted by the initial transporter.</p> <p>Verify that each generator retains a copy of all exception reports for a period of 3 yr.</p> <p>Verify that generators who are exempt from using the medical waste tracking form maintained a shipping log at the original generation point or at each central collection point for a period of 3 yr from the date the waste was shipped.</p> <p>Verify that generators who use a permitted transporter maintain a log for a period of 3 yr from the date of shipment, that contains the following information for each shipment or pickup:</p> <ul style="list-style-type: none"> <li>- transporter's name and address</li> <li>- transporter's Regulated Medical Waste Transporter Permit number</li> <li>- quantity (by weight) of regulated medical waste transported, by waste category (i.e., untreated and treated)</li> <li>- date of shipment</li> <li>- the signature of the transporter's representative accepting the regulated medical waste for transport.</li> </ul> <p>Verify that generators that transport their own regulated medical waste to a treatment, destruction, or disposal facility maintain a log for a period of 3 yr from the date of the last shipment entered into the log.</p> <p>Verify that the shipping log contains the following information:</p> <ul style="list-style-type: none"> <li>- name and address of the intermediate handler, destination facility, or health care facility to which the generator has transported the shipment of regulated medical waste</li> <li>- quantity (by weight) of regulated medical waste transported, by waste category (i.e., untreated and treated)</li> <li>- date of shipment</li> <li>- signature of the generator or his authorized representative who transported the waste.</li> </ul>

**COMPLIANCE CATEGORY:  
SOLID WASTE MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>SO.125.6.RI.</b> Transporters of regulated medical waste must meet recordkeeping requirements (CRIR 12 030 017(14.13)).</p>	<p>Verify that a transporter of regulated medical waste keeps a copy of the tracking form signed by the generator, the previous transporter (if applicable), and the next party, which may be another transporter or an intermediate handling facility or destination facility.</p> <p>Verify that the transporter retains a copy of this form for a period of 3 yr from the date the waste was accepted by the next party.</p> <p>Verify that, for regulated medical waste that is not accompanied by a generator-initiated tracking form, the transporter retains a copy of all transporter-initiated tracking forms and consolidation logs for a period of 3 yr from the date the waste was accepted by the transporter.</p> <p>Verify that, for any regulated medical waste that was received by the transporter accompanied by a tracking form and consolidated or remanifested by the transporter to another tracking form, the transporter:</p> <ul style="list-style-type: none"> <li>- retains a copy of the generator-initiated tracking form signed by the transporter for a period of 3 yr from the date the waste was accepted by the transporter</li> <li>- retains a copy of the transporter-initiated tracking form signed by the intermediate handler or destination facility for a period of 3 yr from the date the waste was accepted by the intermediate handler or destination facility.</li> <li>- retains a copy of each transporter report for a period of 3 yr from the date of submission.</li> </ul>
<p><b>SO.125.7.RI.</b> Transporters of regulated medical waste must meet reporting requirements (CRIR 12 030 017(14.14)).</p>	<p>Verify that a transporter that accepts regulated medical waste generated in the state submits reports on a DEM form describing the source and disposition of the waste.</p> <p>Verify that transporters that accept regulated medical waste generated in another state submit reports on a DEM form describing the source and disposition of the waste if such waste is being transported to a destination facility, intermediate handler, or transfer facility located in the State.</p> <p>Verify that transporters that transport or deliver regulated medical waste to an intermediate handler or to a destination facility also provide the following information:</p> <ul style="list-style-type: none"> <li>- the name and address of each intermediate handler and destination facility to which waste from the state was delivered</li> <li>- the amount, by waste category, that was delivered</li> <li>- the total number of intermediate handlers and destination facilities to which waste was delivered</li> </ul>

<b>COMPLIANCE CATEGORY:</b> <b>SOLID WASTE MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<p><b>SO.125.8.RI.</b> Destination facilities or intermediate handlers must meet recordkeeping requirements (CRIR 12 030 017(7.02)).</p>	<ul style="list-style-type: none"> <li>- the transporter submits reports for the periods of 1 January to 30 June and 1 July to 31 December of each year</li> <li>- transporters submit the reports required above on or before the date 45 days after the end of the reporting period.</li> </ul> <p>Verify that a destination facility or an intermediate handler receiving regulated medical waste maintains records for a minimum of 3 yr from the date the waste was accepted.</p> <p>Verify that these records contain the following information:</p> <ul style="list-style-type: none"> <li>- copies of all tracking forms and logs required by these regulations</li> <li>- the name and address of each SQG that delivered waste to the destination facility or intermediate handlers, and the generator's address</li> <li>- copies of all discrepancy reports.</li> </ul>



<b>COMPLIANCE CATEGORY:</b> <b>SOLID WASTE MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<b>SO.135. LANDFILLS</b>  <b>Solid Waste Landfill Operating Criteria</b>  <b>SO.135.1.RI.</b> Solid waste landfills must meet waste handling requirements (CRIR 12 030 022(2.3.06.a through c)) [Added March 1998].  <b>SO.135.2.RI.</b> Solid waste landfills must meet handling requirements for special wastes (CRIR 12 030 022(2.3.06.d.1 through 5)) [Added March 1998].	<p>(NOTE: Landfills are also subject to the general standards for solid waste management facilities; see SO.5.2.RI. through SO.5.16.RI.)</p> <p>Verify that the unloading of solid waste is controlled and restricted to an area so that the material can easily be incorporated into the working face.</p> <p>Verify that solid waste is spread in layers of approximately 2 ft in depth and compacted with a minimum of four passes of the compaction equipment.</p> <p>Verify that windblown refuse is eliminated or controlled by using fences or other means, and that the sanitary landfill is kept free of windblown refuse at all times.</p> <p>Verify that brush accepted at a sanitary landfill is stored at a minimum distance of 200 ft from the working face, or buried, and that all brush not buried is chipped within 1 wk after arrival.</p> <p>(NOTE: Chipped brush may be stored indefinitely.)</p> <p>Verify that non-hazardous liquid waste is disposed of in a sanitary landfill only if special provisions are approved by the Department.</p> <p>Verify that any non-hazardous liquid waste accepted for disposal is covered immediately after it is dumped at any sanitary landfill, and that no uncovered pools are allowed.</p> <p>Verify that bulk or non-containerized liquid waste are not landfilled unless:</p> <ul style="list-style-type: none"> <li>- the waste is household waste other than septic waste, or</li> <li>- the waste is leachate or gas condensate (liquid from gas recover processes) derived from the SWLF unit and the SWLF unit, regardless of whether it is a new or existing SWLF unit or a lateral expansion of an SWLF unit, is designed with at least a double composite liner and leachate collection system.</li> </ul> <p>Verify that containerized liquid waste is not placed in solid waste landfills, unless:</p> <ul style="list-style-type: none"> <li>- the waste is household waste, or</li> <li>- the container is small and similar in size to that normally used for containing household waste.</li> </ul>

<b>COMPLIANCE CATEGORY:</b> <b>SOLID WASTE MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<p><b>SO.135.3.RI.</b> Solid waste landfills must meet handling requirements for asbestos wastes (CRIR 12 030 022(2.3.06.d.6)) [Added March 1998].</p>	<p>Verify that oil spill cleanup debris is disposed of only in a sanitary landfill constructed with a liner system approved by the Department, or in an alternate facility approved by the Department.</p> <p>Verify that friable asbestos material is not disposed in a sanitary landfill unless specific approval has been received from the Director.</p> <p>Verify that asbestos material accepted at a sanitary landfill is placed at the bottom of the working face and immediately covered with either a minimum of 2 ft of refuse or a minimum of 6 in. of clean fill.</p> <p>Verify that there are no visible emissions of asbestos material from any sanitary landfill which has accepted asbestos material.</p>
<p><b>SO.135.4.RI.</b> Solid waste landfills must screen incoming loads for hazardous waste or PCBs (CRIR 12 030 022(2.3.06.e)) [Added March 1998].</p>	<p>Verify that SWLFs implement a program for detecting and preventing the disposal of regulated hazardous wastes and polychlorinated biphenyls (PCB) wastes.</p> <p>Verify that this program includes, at minimum:</p> <ul style="list-style-type: none"> <li>- random inspections of incoming loads (unless the SWLF owner or operator takes other steps to ensure that incoming loads do not contain regulated hazardous wastes or PCB wastes)</li> <li>- records of any inspections of incoming loads</li> <li>- training of facility personnel to recognize regulated hazardous wastes and PCB wastes</li> <li>- notification of the Director if a regulated hazardous waste or PCB waste is discovered at the facility.</li> </ul>
<p><b>SO.135.5.RI.</b> Solid waste landfills must meet equipment requirements (CRIR 12 030 022(2.3.07)) [Added March 1998].</p>	<p>Verify that there are sufficient types and quantities of equipment for digging, spreading, compacting, or covering waste or applying cover material to adequately meet the requirements of these regulations.</p> <p>Verify that each piece of equipment has a minimum basic weight without blade, bucket or other accessories of 17,000 lb.</p> <p>Verify that there are arrangements in writing for emergency equipment to allow for operating equipment breakdown.</p> <p>Verify that emergency equipment is on the site within 24 h of operating equipment breakdown.</p>

**COMPLIANCE CATEGORY:  
SOLID WASTE MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>SO.135.6.RI.</b> Solid waste landfills must meet specific gas control requirements (CRIR 12 030 022(2.3.08)) [Added March 1998].</p>	<p>Verify that the concentration of methane gas generated by the facility does not exceed 25 percent of the lower explosive limit for methane in facility structures (excluding gas control or recovery system components).</p> <p>Verify that the concentration of methane gas does not exceed 25 percent of the lower explosive limit for methane at the facility property boundary.</p> <p>Verify that the sanitary landfills implements a routine methane monitoring program to ensure compliance with these requirements.</p>
<p><b>SO.135.7.RI.</b> Solid waste landfills must meet specific fire protection requirements (CRIR 12 030 022(2.3.09)) [Added March 1998].</p>	<p>Verify that the solid waste landfill does not pose a hazard to the safety of persons or property from fires.</p> <p>Verify that sanitary landfills arrange in writing for a nearby fire department to provide emergency service whenever called.</p> <p>Verify that there is either an adequate supply of water under pressure, or a stockpile of the equivalent of four days cover material for use exclusively in fighting fires, within 1000 ft of the working face.</p> <p>Verify that all landfill equipment (dozer, front end loaders and landfill compactors) is supplied with fire extinguishers.</p>
<p><b>SO.135.8.RI.</b> Solid waste landfills must control surface drainage (CRIR 12 030 022(2.3.10)) [Added March 1998].</p>	<p>Verify that the landfill makes provisions to have the sanitary landfill site, including the fill surface, graded and provided with a drainage system to:</p> <ul style="list-style-type: none"> <li>- minimize surface water runoff onto and into the fill</li> <li>- prevent erosion of the fill</li> <li>- drain off rain water falling on the fill</li> <li>- prevent the collection of standing water.</li> </ul> <p>Verify that the surface drainage system is designed to control the water volume from a 24-h, 25-yr storm.</p> <p>Verify that measures are taken to prevent sedimentation associated with surface drainage from borrow areas and other disturbed areas.</p> <p>Verify that the minimum top surface slopes are three percent, and that the maximum side slopes are no steeper than 3/1.</p>

**COMPLIANCE CATEGORY:  
SOLID WASTE MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<b>SO.135.9.RI.</b> Solid waste landfills must meet minimum distance requirements (CRIR 12 030 022(2.3.12)) [Added March 1998].	Verify that no refuse is disposed within 600 ft of any property line.  Verify that no excavations occur within 600 ft of any property line.
<b>SO.135.10.RI.</b> Solid waste landfills must limit access (CRIR 12 030 022(2.3.13)) [Added March 1998].	Verify that there is no dumping of solid waste at a sanitary landfill after one-half hour past sunset.
<b>SO.135.11.RI.</b> Solid waste landfills must not be deposited in a flood plain (CRIR 12 030 022(2.3.14.a)) [Added March 1998].	Verify that no refuse is deposited in the 100-yr flood plain.
<b>SO.135.12.RI.</b> Solid waste landfills must make annual height surveys (CRIR 12 030 022(2.3.16)) [Added March 1998].	Verify that an annual survey of the landfill height is taken by a properly licensed Rhode Island land surveyor or professional engineer.  Verify that this survey is submitted to the Department within 30 d after the survey.
<b>SO.135.13.RI.</b> Excavations in previously filled areas must be approved by the Director (CRIR 12 030 022(2.3.17)) [Added March 1998].	Verify that there are no excavations in previously filled areas without prior written approval from the Director.
<b>SO.135.14.RI.</b> Solid waste landfills must meet airport safety requirements (CRIR 12 030 022(2.3.19)) [Added March 1998].	Verify that new SWLF units, existing SWLF units and their lateral expansions that are located within 10,000 ft (3048 m) of any airport runway end used by turbojet aircraft, or within 5000 feet (1524 m) of any airport runway end used by piston type aircraft, demonstrates that they are designed and operated so they do not pose a bird hazard to aircraft.
	Verify that the landfill documents demonstration of this design and operation in its operating record, and notifies the Director of this documenting action.

<b>COMPLIANCE CATEGORY:</b> <b>SOLID WASTE MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<p><b>SO.135.15.RI.</b> Solid waste landfills located in geologically unstable areas must take measures to ensure the integrity of the landfill (CRIR 12 030 022(2.3.22.a)) [Added March 1998].</p>	<p>Verify that new SWLF units, existing SWLF units, and lateral expansions of SWLF units located in unstable areas demonstrate that engineering measures have been incorporated into the SWLF unit's design to ensure that the integrity of the structural components of the SWLF unit will not be disrupted.</p> <p>Verify that this demonstration is placed in the operating record, and the Director is notified that it has been placed in the operating record.</p>
<p><b>SO.135.16.RI.</b> Solid waste landfills must meet recordkeeping requirements (CRIR 12 030 022(2.3.25)) [Added March 1998].</p>	<p>Verify that solid waste landfills record, and retain near the facility in an operating record, the following information as it becomes available:</p> <ul style="list-style-type: none"> <li>- any location restriction documentation</li> <li>- waste inspections records, training procedures, and notification procedures</li> <li>- gas monitoring results and any remediation plans</li> <li>- any SWLF unit design documentation for placement of leachate or gas condensate in the landfill</li> <li>- any groundwater demonstration, certification, finding, monitoring, testing, or analytical data</li> <li>- closure and post-closure care plans and any related monitoring, testing or analytical data.</li> </ul> <p>Verify that the landfill notifies the Director when these documents have been placed or added to the landfill's operating record.</p> <p>Verify that the landfill retains all these records for the life of the facility, to include the closure and post-closure care periods.</p>
<p><b>SO.135.17.RI.</b> Post-closure care at solid waste landfills must be certified (CRIR 12 030 022(2.3.24)) [Added March 1998].</p>	<p>Verify that, following completion of the post-closure period, the landfill submits to the Department a copy of a certification signed by an independent registered professional engineer.</p> <p>Verify that this certification verifies that post-closure care has been completed in accordance with the post-closure plan and that this certification has been placed in the landfill's operating record.</p>
<p><b>New Solid Waste Landfills</b></p>	
<p><b>SO.135.18.RI.</b> Newly constructed landfills must</p>	<p>Verify that a construction certification report is submitted to the Department</p>

<b>COMPLIANCE CATEGORY:</b> <b>SOLID WASTE MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
submit a construction certification report (CRIR 12 030 022(2.2.13)) [Added March 1998].	<p>within 45 days after the completion of landfill construction.</p> <p>Verify that this report includes, at a minimum, the information prepared in accordance with the application requirements of Rule 2.1.06 containing results of all quality assurance and quality control testing required in this section, including documentation of any failed test results, descriptions of procedures used to correct the improperly installed material, and statements of all retesting performed.</p> <p>Verify that the report contains as-built drawings noting any deviation from the approved engineering plans, and a comprehensive analysis including, but not limited to, daily reports from the project engineer and a series of color photographs of major project features.</p> <p>(NOTE: The Department will review the submitted material for approval within 30 days after receipt.)</p>

<b>COMPLIANCE CATEGORY:</b> <b>SOLID WASTE MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<b>SO.140. CONSTRUCTION/DEMOLITION LANDFILLS</b>	
<b>SO.140.1.RI.</b> Construction and demolition debris processing facilities must be licensed (CRIR 12 030 027(7.1.01) and (7.4.00)) [Added March 1998].	<p>Verify that facilities that process construction and demolition debris apply for solid waste management licenses.</p> <p>Verify that facilities that process construction and demolition debris that accept 150 tons/day or less of construction and demolition debris submit a completed "License Exemption For."</p>
<b>SO.140.2.RI.</b> Construction and demolition debris processing facilities must meet general operating standards licensed (CRIR 12 030 027(7.2.01) and (7.2.02)) [Added March 1998].	<p>(NOTE: Construction and demolition debris processing facilities and processing facilities must meet the requirements set forth in this rule in addition to the general standards for solid waste management facilities (see SO.5.2.RI. through SO.5.16.RI.).</p> <p>Verify that the processing facility is able to demonstrate through records that 75 percent of the "recyclable material" and "recyclables" received by the facility are processed and removed from the site within 6 wk of receipt on a continuous basis, and that the facility does not store material on site for over 3 mo.</p> <p>Verify that storage of unprocessed or processed construction and demolition debris is in designated areas, and stockpiles do not exceed 20 ft in height and 50 ft in width.</p> <p>Verify that a minimum separation of 50 ft is maintained between stockpiles, and between stockpiles and buildings or other structures.</p> <p>Verify that unprocessed or processed construction and demolition debris is not compacted, or covered with soil or other materials.</p> <p>Verify that processing of materials utilizing compaction equipment is done only with prior Department approval.</p>
<b>SO.140.3.RI.</b> Construction and demolition debris processing facilities must meet wastewater management	<p>Verify that water used in processing the construction and demolition debris, and cleaning of the facility, as well as leachate from any refuse collected in storage pits or transfer areas, is disposed of in a manner that will not pollute any source of private or public water supply, or any of the waters or groundwaters of the</p>

**COMPLIANCE CATEGORY:  
SOLID WASTE MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
requirements (CRIR 12 030 027(7.2.03)) [Added March 1998].	State, and is disposed of in accordance with all state and federal laws and regulations.
<b>SO.140.4.RI.</b> Construction and demolition debris processing facilities must maintain a buffer zone (CRIR 12 030 027(7.2.05)) [Added March 1998].	<p>Verify that a buffer zone is identified and maintained between all processed and unprocessed construction and demolition debris stockpiles, processing activities and the property line of the facility.</p> <p>Verify that the buffer zone is of sufficient distance to address dust, odors, litter, or any other concern or condition identified by the Department.</p> <p>(NOTE: Alternative measures may include, but are not limited to enclosing operations or storage within the confines of a protective structure, fencing, screening, vegetation or approved equal.)</p>
<b>SO.140.5.RI.</b> Construction and demolition debris processing facilities must meet fire protection standards (CRIR 12 030 027(7.2.06)) [Added March 1998].	<p>Verify that a processing facility does not pose a hazard to the health and safety of persons or property from fires.</p> <p>Verify that a fire protection plan is submitted to the local fire authority prior to operation.</p> <p>Verify that processing facilities submit site locator plans, site sketches, and operating plans to the local fire department for their review and notification.</p> <p>Verify that there is, within 1000 ft of the processing facility and storage stockpiles, either an adequate supply of water under pressure or the equivalent of cover material for use exclusively in fighting fires, or other equivalent method which meets the approval of the Department and the local fire chief.</p> <p>Verify that cover material for the purposes of extinguishing a fire is available if the construction and demolition debris is stored outside of the confines of a protective structure.</p> <p>Verify that all processing facility equipment including but not limited to, dozers, front end loaders and compactors is supplied with fire extinguishers.</p> <p>Verify that these elements are included in the facility's fire contingency plan.</p>
<b>SO.140.6.RI.</b> Construction and demolition debris processing facilities must have provisions for alternate	<p>Verify that all processing facilities have an alternate method of disposal, approved in writing by the Department, with another solid waste management facility for use in the event of equipment failure or forced shutdown.</p> <p>Verify that in the event of equipment failure or forced shutdown, storage of</p>

<b>COMPLIANCE CATEGORY:</b> <b>SOLID WASTE MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
disposal (CRIR 12 030 027(7.2.07)) [Added March 1998].  SO.140.7.RI. Construction and demolition debris processing facilities that generate materials for reuse must meet specific requirements (CRIR 12 030 027(7.3.01)) [Added March 1998].	unprocessed materials does not exceed the Department approved storage quantity.  Verify that processing facilities that process or separate construction and demolition debris and generate screenings or wood chips for reuse sample and test these materials.  Verify that all reuses of screenings or wood chips are approved by the Department.



<b>COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<b>SO.145. INCINERATORS</b>	<p>(NOTE: Incinerators are also subject to the general requirements for solid waste management facilities; see SO.5.2.RI. through SO.5.16.RI.)</p>
<b>SO.145.1.RI.</b> Incinerators must manage traffic flow to avoid back-ups (CRIR 12 030 024(4.3.01)) [Added March 1998].	<p>Verify that the delivery of solid waste and the removal of residues and recovered products from the site are scheduled to eliminate traffic back-ups and allow for fluid vehicular movement on site.</p>
<b>SO.145.2.RI.</b> Incinerators must screen waste to prevent acceptance of prohibited wastes (CRIR 12 030 024(4.3.05)) [Added March 1998].	<p>Verify that the resource recovery facility has a waste receiving area control procedures that provide for the screening and inspection of the incoming waste stream:</p> <ul style="list-style-type: none"> <li>- to prevent the acceptance of prohibited or unauthorized waste types</li> <li>- to operate in compliance with the regulations regarding source segregation of recyclable materials and, correspondingly, the maximum recyclable materials content in the incoming waste stream</li> <li>- to remove undesirable or unprocessable materials prior to the initiation of processing, as provided in the approved operating plan.</li> </ul>
<b>SO.145.3.RI.</b> Waste storage at incinerators must meet specific criteria (CRIR 12 030 024(4.3.07)) [Added March 1998].	<p>Verify that unprocessed, incoming solid waste to be incinerated is stored in pits, bunkers, or similar containment vessels, and kept at levels that prevent spillage or overflow.</p> <p>Verify that all combustible or putrescible waste storage is conducted within the confines of a protective structure.</p> <p>Verify that the capacity of the storage pit is equivalent to at least the rated capacity of the incinerator/combustion chamber for 1 and 1/2 days of operation.</p> <p>Verify that no combustible solid waste is stored for more than 48 h at the facility, except for 3-day holiday weekends.</p>
<b>SO.145.4.RI.</b> Incinerators must have an alternate disposal method for shutdown periods (CRIR 12 030 024(4.3.08)) [Added March	<p>Verify that the resource recovery facility has an alternate method of disposal, in writing, with another licensed solid waste management facility in the event of equipment failure or forced shutdown which prevents the facility from receiving a part of or all of its normal solid waste input.</p>

<b>COMPLIANCE CATEGORY:</b> <b>SOLID WASTE MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> March 1998
1998].	
<b>SO.145.5.RI.</b> Storage of special recyclables at incinerators must meet specific criteria (CRIR 12 030 024(4.3.10)) [Added March 1998].	Verify that incoming solid waste identified as oversized bulky, unprocessable or non-putrescible recyclables (if any) are temporarily stored in closed-top containers at the facility only with the Department's permission, and only for a time period approved by the Department (and as provided for in the approved operating plan).
<b>SO.145.6.RI.</b> Incinerators must minimize odors (CRIR 12 030 024(4.3.11)) [Added March 1998].	Verify that suitable measures [undefined] are taken to minimize odors originating at the facility.  (NOTE: This may be accomplished by immediate processing or disposing of waste at other solid waste management facilities.)  Verify that methods are employed to prevent odors associated with purification of stored waste.
<b>SO.145.7.RI.</b> Wastewater and liquid waste at incinerators must be managed according to specific requirements (CRIR 12 030 024(4.3.19)) [Added March 1998].	Verify that any wastewater and liquid waste that is not recycled, but instead disposed, is disposed in a manner that does not pollute any source of private or public supply, any of the waters of the state or groundwaters.  (NOTE: These wastes include, but are not limited to, water used to quench the incinerator residue, scrub the flue gas, clean the facility, liquid waste from the refuse collected in the storage pit, and tipping floor run-off.)
<b>SO.145.8.RI.</b> Residue and recovered materials at incinerators must be stored according to specific requirements (CRIR 12 030 024(4.3.21)) [Added March 1998].	Verify that facility ash residues, effluent (if any), and recovered materials (if any) are stored in bunkers, pits, bins or similar leakproof containment vessels, and kept at levels that prevent leakage, spillage, or overflow.
<b>SO.145.9.RI.</b> Ash at incinerators must be managed according to specific requirements (CRIR 12 030	Verify that resource recovery facility comply with operating standards for ash sampling, testing, characterization, management, disposal, and removal as provided in Appendix 9-2.

**COMPLIANCE CATEGORY:  
SOLID WASTE MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
024(4.3.22)) [Added March 1998].	
<b>SO.145.10.RI.</b> Incinerators must meet maintenance and inspection requirements (CRIR 12 030 024(4.3.23)) [Added March 1998].	<p>Verify that all systems and equipment are maintained in a manner that facilitates proper operation and minimizes system downtime.</p> <p>Verify that immediately following the initiation of facility operation, facility personnel begin routine inspections for operating effectiveness and equipment deterioration or malfunction.</p> <p>Verify that written records of inspection are maintained and made available for review by the Department.</p> <p>Verify that a planned maintenance and overhaul schedule for major equipment is established and executed during facility operation.</p>
<b>SO.145.11.RI.</b> Incinerators must meet fire protection and emergency requirements (CRIR 12 030 024(4.3.27) and (4.3.28)) [Added March 1998].	<p>Verify that the resource recovery facility does not pose a fire hazard to persons or property.</p> <p>Verify that all buildings have a suitable quantity of water at sufficient pressures, on each floor, suitable for firefighting purposes and approved by the local fire authority.</p> <p>Verify that the resource recovery facility has arrangements, in writing, from nearby fire, police, rescue, medical services, and a hazardous waste emergency response company and hazardous waste transporter to provide emergency services in case of fires, explosions, hazardous waste incidents or other similar emergencies.</p>
<b>SO.145.12.RI.</b> Incinerators must meet staffing requirements (CRIR 12 030 024(4.3.29) and (4.3.30)) [Added March 1998].	<p>Verify that the resource recovery facility maintains sufficient personnel during each operating shift to assure the proper and orderly operation of all components and systems, along with the ability to handle all routine maintenance requirements.</p> <p>Verify that personnel have sufficient educational background, employment experience and training to enable them to perform their duties in a competent and safe manner.</p> <p>Verify that each operating shift has a designated shift supervisor or equivalent to direct and implement operational decisions during that shift.</p>

<b>COMPLIANCE CATEGORY:</b> <b>SOLID WASTE MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<b>SO.145.13.RI.</b> Incinerators must meet training requirements (CRIR 12 030 024(4.3.31) and (4.3.32)) [Added March 1998].	<p>Verify that incinerators provide a comprehensive training program covering normal job responsibilities and procedures, emergency situations, and procedures and safety issues to facility employees.</p> <p>Verify that employees involved with the operation and maintenance of the facility receive training at least annually.</p> <p>(NOTE: These include, but are not limited to, the chief facility operator, shift supervisors, control room operators, ash handlers, maintenance personnel, and crane/load handlers.)</p> <p>Verify that facility-specific training and operating manuals are used for training personnel.</p> <p>Verify that the manuals are kept up to date, with any necessary revisions made at least annually.</p> <p>Verify that the manuals are kept in a readily accessible location and made available for inspection by the Department.</p> <p>Verify that the initial review of the training and operating manuals is conducted prior to assumption of operational job duties.</p> <p>Verify that the chief facility operator and the shift supervisor for each operating shift obtain and keep current ASME operator certification or an equivalent certification approved by the Department.</p> <p>Verify that the resource recovery facility does not operate at any time without the presence of a certified shift supervisor or other certified operator.</p> <p>Verify that training records that document the type and amount of training received by current facility personnel are maintained at the facility in accordance with the approved operating plan.</p>
<b>SO.145.14.RI.</b> Incinerators must meet contingency planning requirements (CRIR 12 030 024(4.3.33)) [Added March 1998].	<p>Verify that incinerators develop contingency plans and procedures to handle fires, explosions, hazardous waste incidents, and similar emergencies, in conjunction with supporting local authorities (fire, police, rescue, and medical groups), prior to facility operation.</p> <p>Verify that training and practice to handle these emergencies is periodically provided during the operation of the facility.</p>

<b>COMPLIANCE CATEGORY:</b> <b>SOLID WASTE MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<b>SO.160.</b> <b>WASTE TIRES</b>	<p>(NOTE: This rule applies to installations/CW facilities that recover, recycle, or store in excess of four hundred waste tires (CRIR 12 030 025(5.2.02).)</p> <p>(NOTE: Waste tire recovery, recycling, and storage facilities are also subject to the general requirements for solid waste management facilities; see SO.5.2.RI. through SO.5.16.RI.)</p>
<b>SO.160.1.RI.</b> Storage of waste tires must meet specific requirements (CRIR 12 030 025(5.2.03)) [Added March 1998].	<p>Verify that whole tire piles do not exceed 20 ft in height.</p> <p>Verify that horizontal dimensions of waste tire piles at the base of the pile do not exceed 200 ft in length and 50 ft in width.</p> <p>(NOTE: Tires that are chipped or shredded into 8 in. diameter pieces or smaller may be stored in piles not exceeding 200 ft in length, 150 ft in width, and 20 ft in height.)</p> <p>Verify that waste tire piles have a minimum separation distance of 50 ft between piles, and between a pile and buildings and other structures.</p> <p>Verify that waste tire piles must have a minimum separation distance of 200 ft from property lines.</p> <p>Verify that the installation/CW facility does not store waste tires in excess of the quantity for which it is licensed.</p> <p>Verify that waste tires are not stored in excess of 6 mo.</p> <p>Verify that an installation/CW facility is able to demonstrate that, on a throughput basis, it is processing 75 percent of the total amount of tires on site within a 6 mo period, or for each 6 mo period the facility is in operation.</p>
<b>SO.160.2.RI.</b> Waste tires must be sorted (CRIR 12 030 025(5.2.04)) [Added March 1998].	<p>Verify that tires are unmounted.</p> <p>Verify that any solid waste resulting from facility operations are stored in department approved areas until removed from the facility.</p> <p>(NOTE: Facilities that remove and recover rims may store mounted tires in a manner approved by the Department, but only for a time approved by the Department.)</p>

<b>COMPLIANCE CATEGORY:</b> <b>SOLID WASTE MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<p><b>SO.160.3.RI.</b> Waste tires must be processed (CRIR 12 030 025(5.2.05)) [Added March 1998].</p>	<p>Verify that waste tire recycling facilities chip, pulverize or process all waste tires within a Department approved time frame.</p> <p>Verify that a description of the tire reduction/processing techniques are included in the facility's operating plan.</p>
<p><b>SO.160.4.RI.</b> Waste tire facilities must meet fire prevention requirements (CRIR 12 030 025(5.2.06)) [Added March 1998].</p>	<p>Verify that roads to the facility and access roads within the waste tire facility are constructed for all weather conditions and maintained in passable condition at all times to allow for access by fire fighting and emergency response equipment.</p> <p>Verify that the waste tire facilities are maintained free from weeds, trees, and vegetation which may restrict access to or operations of the facility.</p> <p>Verify that the waste tire facility is constructed to prevent the uncontrolled collection and pooling of water on the facility.</p> <p>Verify that waste tire facilities have, at a minimum, a soil stockpile with approximately 2000 yd<sup>3</sup> of soil available for each 4 acres of storage, and fully charged large capacity carbon dioxide or dry chemical fire extinguishers located in strategically placed enclosures throughout the entire facility in quantities as deemed necessary in the operating plan.</p> <p>Verify that waste tire piles have access to a water supply, so that any part of the storage pile can be reached by using not more than 500 ft of hose, or a distance that is approved by the local fire fighting company.</p> <p>Verify that waste tire piles are accessible on all sides to fire fighting and emergency response equipment.</p> <p>(NOTE: Due to the specific fire hazard that tires represent, all Waste Tire Storage and Recycling Facilities are required to provide surety or insurance in an amount sufficient to cover the cost of handling the worst case contingency identified in the contingency plan, or closure of the facility at its maximum capacity (whichever is greater).)</p>
<p><b>SO.160.5.RI.</b> Waste tire facilities must meet vector control requirements (CRIR 12 030 025(5.2.07)) [Added March 1998].</p>	<p>Verify that waste tire piles are maintained in a manner which limits mosquito breeding potential and other vectors.</p> <p>(NOTE: Methods of acceptable vector control may include one or more of the following:</p> <ul style="list-style-type: none"> <li>- covering by plastic sheets or other impermeable barriers, other than soil, to prevent the accumulation of precipitation</li> </ul>

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT Rhode Island Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 1998
SO.160.6.RI. Waste tire facilities must meet security requirements (CRIR 12 030 025(5.2.08)) [Added March 1998].	<ul style="list-style-type: none"> <li>- chemical treating to eliminate vector breeding (provided all chemical treatment programs used as part of the vector control plan first receive Department approval)</li> <li>- mechanical tire size reduction into pieces no larger than eight inches in diameter, with storage in piles that allows complete water drainage</li> <li>- other methods that may be approved by the Mosquito Abatement Board.)</li> </ul> <p>Verify that waste tire facilities are enclosed by a woven wire, chain-link or other acceptable fence material, at least 6 ft in height, that are a minimum of 200 ft from tire piles and tire processing areas.</p> <p>Verify that access is controlled by lockable gates. Fences must be a minimum distance of 200 ft from tire piles and tire processing areas.</p>



**COMPLIANCE CATEGORY:  
SOLID WASTE MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>SO.165. YARD WASTE/ COMPOSTING</b></p> <p><b>Leaf and Yard Waste Composting</b></p> <p><b>SO.165.1.RI.</b> Leaf and yard waste composting facilities must be registered (CRIR 12 030 028(8.1.01) and (8.1.07)) [Added March 1998].</p> <p><b>SO.165.2.RI.</b> Leaf and yard waste composting facilities must meet siting criteria (CRIR 12 030 028(8.2.02)) [Added March 1998].</p>	<p>(NOTE: All composting facilities are also subject to the general standards for solid waste management facilities; see SO.5.2.RI. through SO.5.16.RI.)</p> <p>Verify that the installation/CW facility registers leaf and yard waste composting facilities with the Office of Waste Management of the Department of Environmental Management (DEM), and obtains a written approval that the registration is complete.</p> <p>(NOTE: Agricultural composting facilities are permitted through the Office of Natural Resources Services of the Department of Environmental Management.)</p> <p>(NOTE: Backyard composting is not subject to the Leaf and Yard Waste Composting Facility rules and regulations, but may be subject to Department enforcement actions if best management practices acceptable to the Department are not followed.)</p> <p>Verify that the installation/CW facility re-registers leaf and yard waste composting facilities if any of the following occurs:</p> <ul style="list-style-type: none"> <li>- the annual volume of leaves and yard waste to be composted at the facility increases by 20 percent of the annual volume indicated in the current registration</li> <li>- the design of the facility, or procedures or processes for leaf and yard waste composting are modified</li> <li>- there is a change in the identity of the facility's owner or operator or site location.</li> </ul> <p>Verify that there is at least 200 ft between the staging, processing, curing, and storage areas of the leaf and yard waste composting facility and any surface water.</p> <p>Verify that there are at least 100 ft between the staging, processing, curing, and storage areas of the leaf and yard waste composting facility and the boundaries of the property.</p> <p>Verify that there are at least 250 ft between the staging, processing, curing, and</p>

<b>COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>SO.165.3.RI.</b> Leaf and yard waste composting facilities must prevent water pollution (CRIR 12 030 028(8.2.04.A and C)) [Added March 1998].</p>	<p>storage areas of the leaf and yard waste composting facility and any occupied building other than an owner occupied building on the property at which the facility is located.</p> <p>(NOTE: At facilities employing passive windrow composting, the distance will be 500 ft).</p> <p>Verify that there are at least 2 ft vertically between the ground surface of the property and the seasonal high groundwater table.</p> <p>Verify that there are at least 3 ft vertically between the ground surface of the property and the bedrock.</p> <p>Verify that there are at least 200 ft between the staging, processing, curing, and storage areas of the leaf and yard waste composting facility and any bedrock public wells.</p> <p>Verify that there are at least 200 ft separation from private wells and 1000 ft separation from gravel pack public wells (relative to the distance between the staging, processing, curing and storage areas of the leaf and yard waste composting facility and such wells).</p> <p>Verify that the composting site is not located on a public well field.</p> <p>Verify that buffers, such as trees, walls, fences, natural or man made topographic features, are installed to mitigate noise, odors, litter and other potential impacts on neighboring properties.</p> <p>Verify that the composting site is not located on a wellhead protection area.</p> <p>Verify that at a leaf and yard waste composting facility which is located on top of a closed solid waste disposal area, composting is conducted on a pad to prevent disruption of the landfill cap and underlying waste.</p> <p>Verify that the pad is constructed of well compacted, well drained soil, no less than 2 ft thick and sloped at 2 to 5 percent to promote surface drainage.</p> <p>Verify that there is a minimum of 2 ft of soil between the lowest level of the compost pile and the highest water table level.</p> <p>Verify that there is a minimum of 3 ft of soil between the highest level of bedrock and the lowest level of the proposed composting surface.</p> <p>Verify that leaf and yard waste composting activities are not in, and do not impact, any freshwater wetlands.</p>

**COMPLIANCE CATEGORY:  
SOLID WASTE MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>SO.165.4.RI.</b> Leaf and yard waste composting facilities must meet fire prevention requirements (CRIR 12 030 028(8.2.06)) [Added March 1998].</p>	<p>Verify that composting sites do not pose a hazard to the safety of persons or property from fires.</p> <p>Verify that all composting sites submit site locator plans, site sketches, and operating plans to the local fire department for their review and notification so as to provide emergency service.</p> <p>Verify that all composting sites and site equipment (dozers and front end loaders) are equipped with fire extinguishers.</p>
<p><b>SO.165.5.RI.</b> Leaf and yard waste composting facilities must control access (CRIR 12 030 028(8.2.08)) [Added March 1998].</p>	<p>Verify that public access to the composting facility is limited to the hours of operation.</p> <p>Verify that access to the site is adequate to permit orderly entrance and exit, even during inclement weather, and that roads allow access by fire-fighting equipment at all times.</p> <p>Verify that the site is designed with perimeter fencing, and with gate controls to prevent unauthorized access and dumping at the site and to control the off-site escape of litter.</p>
<p><b>SO.165.6.RI.</b> Leaf and yard waste composting facilities must have an on-site water supply (CRIR 12 030 028(8.2.11)) [Added March 1998].</p>	<p>Verify that an on-site water supply is available to maintain proper moisture levels in the windrow.</p> <p>(NOTE: If no on-site water is available, then a water truck may be substituted for windrow watering only.)</p> <p>Verify that water used to maintain windrow moisture does not adversely impact the finished compost.</p>
<p><b>SO.165.7.RI.</b> Leaf and yard waste composting facilities must meet monitoring requirements (CRIR 12 030 028(8.2.12) and (8.2.13)) [Added March 1998].</p>	<p>Verify that there is compost thermometer available on site, 3 to 4 ft in length, capable of reading between 0° - 200°F.</p> <p>Verify that a written record is maintained of:</p> <ul style="list-style-type: none"> <li>- windrow temperatures (recorded at least twice per wk)</li> <li>- ambient air temperature at time of recording;</li> <li>- weather conditions</li> <li>- odors (if detected)</li> <li>- pile moisture conditions and site observations.</li> </ul>

<b>COMPLIANCE CATEGORY:</b> <b>SOLID WASTE MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<p><b>SO.165.8.RI.</b> The composting pad at leaf and yard waste composting facilities must meet design and construction requirements (CRIR 12 030 028(8.2.14)) [Added March 1998].</p>	<p>(NOTE: This requirement may be modified or waived with Department approval, provided satisfactory operating conditions have been maintained and demonstrated for a length of time satisfactory to the Department.)</p> <p>Verify that the composting pad is designed to support heavy equipment.</p> <p>Verify that the pad is permeable enough to prevent ponding of surface water and firm enough to prevent ruts in all seasons.</p> <p>Verify that pads are graded between a 2 and a 5 percent slope.</p> <p>Verify that where existing site soil that is not permeable enough to prevent standing water or firm enough to prevent ruts, a pad is constructed that:</p> <ul style="list-style-type: none"> <li>- is constructed of bank run gravel or the equivalent</li> <li>- that consists of a layer of at least 12 in. of bank, run gravel or the equivalent.</li> </ul> <p>Verify that impermeable pads are used only if approved, and that:</p> <ul style="list-style-type: none"> <li>- have systems for collection and management of run-off</li> <li>- are designed to ensure that on-site drainage systems do not clog.</li> </ul>
<p><b>SO.165.9.RI.</b> Leaf and yard waste composting facilities must control sedimentation and run-off (CRIR 12 030 028(8.2.15)) [Added March 1998].</p>	<p>Verify that there is a drainage system to prevent sediment or run-off water from migrating off-site.</p> <p>Verify that ground surface upgradient of the site is prepared to prevent water seepage into composting and curing piles.</p> <p>Verify that drainage control measures are designed to accommodate the net increases in run-off from a 24 h, 25 yr storm event.</p> <p>Verify that leaf and yard waste composting facilities are not located in 100 yr flood plains, unless provisions have been made to prevent encroachment of flood waters onto the facility and approval has been obtained from the Office of Water Resources.</p>
<p><b>SO.165.10.RI.</b> Windrows at leaf and yard waste composting facilities must meet size and positioning standards (CRIR 12 030 028(8.2.16)) [Added March</p>	<p>Verify that windrows are placed along the fall line of the composting pad (parallel to the slope of the pad).</p> <p>Verify that windrow height and width are such that the windrow turning equipment used can mix all leaf and yard waste easily and thoroughly, and are in no case greater than 12 ft in height and 24 ft in width, and positioned so as not to</p>

**COMPLIANCE CATEGORY:  
SOLID WASTE MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p>1998].</p> <p><b>SO.165.11.RI.</b> Leaf and yard waste composting facilities must screen incoming loads (CRIR 12 030 028(8.2.17)) [Added March 1998].</p> <p><b>SO.165.12.RI.</b> Leaf and yard waste composting facilities must meet waste storage requirements (CRIR 12 030 028(8.2.18)) [Added March 1998].</p>	<p>allow water ponding between the windrows.</p> <p>Verify that windrows are positioned to allow for fire vehicle access.</p> <p>Verify that there are waste receiving area control procedures that:</p> <ul style="list-style-type: none"> <li>- provide for the screening and inspection of the incoming waste stream to prevent the acceptance of prohibited or unauthorized waste types</li> <li>- remove undesirable materials prior to the initiation of composting, as provided in the approved operating plan.</li> </ul> <p>Verify that leaf and yard waste are not stored for a period longer than 1 wk before the wastes are watered, processed and formed into actively composting windrows.</p> <p>Verify that material in plastic bags is debagged within 1 wk upon arrival at the site.</p> <p>Verify that grass clippings are not accepted at the site unless there is a sufficient quantity of carbonaceous materials (leaves, composted leaves, chipped wood, etc.) to mix with the grass.</p> <p>Verify that mixing ratios are 1 part grass clippings to a minimum 3 parts carbonaceous material (by volume) unless otherwise approved by the Department.</p> <p>Verify that grass clippings are mixed with carbonaceous material and incorporated in the windrow within 3 days of delivery.</p> <p>Verify that grass clippings are not accepted at compost sites employing the passive windrow method.</p> <p>Verify that brush is chipped or shredded before being-placed in windrows, and within 1 wk after arrival, unless otherwise approved by the Department.</p> <p>(NOTE: Chipped brush may be stored for approved time periods in designated areas in quantities and pile sizes approved by the Department.)</p> <p>Verify that empty plastic bags are removed from the pad area and disposed properly, and that there are receptacles at the site to collect empty bags and miscellaneous trash removed from windrows during the composting process.</p> <p>Verify that a windrow does not contain materials and wastes for longer than a 12 mo period (composting must be completed within this time frame).</p>

<b>COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
	<p>Verify that moisture in the windrow is maintained in a manner that continues the composting process, and that the moisture level is maintained between 40 and 60 percent by weight.</p> <p>Verify that in the windrow and turn method, windrows are turned as often as necessary to continue aerobic composting and to prevent odors.</p> <p>Verify that in static aerated windrow composting, windrows are mechanically aerated as often as is necessary to continue aerobic composting and to prevent foul odors.</p> <p>Verify that windrows are turned as often as is necessary to mitigate the dispersion of dust or any potential bioaerosols.</p> <p>Verify that windrows are moist, or water sprayed, during the windrow turning process.</p>
<p><b>SO.165.13.RI.</b> Leaf and yard waste composting facilities must meet compost storage area requirements (CRIR 12 030 028(8.2.21)) [Added March 1998].</p>	<p>Verify that the compost storage area is no smaller than at least 15 percent the size of the windrow composting area.</p> <p>Verify that curing is a minimum of 1 mo.</p>
<p><b>Putrescible Waste Composting Facilities</b></p>	<p>(NOTE: Putrescible waste composting facilities are subject to the general requirements for solid waste disposal facilities; see SO.5.2.RI. through SO.5.16.RI.)</p>
<p><b>SO.165.14.RI.</b> Putrescible waste composting facilities must be registered (CRIR 12 030 028(8.3.01)) [Added March 1998].</p>	<p>Verify that the installation/CW facility registers putrescible waste composting facilities with the Office of Waste Management of the Department of Environmental Management (DEM), and obtains a written approval that the registration is complete.</p>
<p><b>SO.165.15.RI.</b> Putrescible waste composting facilities must be registered (CRIR 12 030 028(8.4.01.B)) [Added March 1998].</p>	<p>Verify that the passive composting method is not used for composting putrescible wastes.</p> <p>(NOTE: The windrow and turn method, aerated static pile and in-vessel composting are acceptable methods for composting putrescible waste. Other methodology will be considered for approval pending Department review.)</p>

<b>COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>SO.165.16.RI.</b> Putrescible waste composting facilities must meet siting criteria (CRIR 12 030 028(8.4.02)) [Added March 1998].</p>	<p>Verify that there is at least 200 ft between the staging, processing, curing, and storage areas of the leaf and yard waste composting facility and any surface water.</p> <p>Verify that there are at least 100 ft between the staging, processing, curing, and storage areas of the leaf and yard waste composting facility and the boundaries of the property.</p> <p>Verify that there are at least 250 ft between the staging, processing, curing, and storage areas of the leaf and yard waste composting facility and any occupied building other than an owner occupied building on the property at which the facility is located.</p> <p>Verify that there are at least 3 ft vertically between the ground surface of the property and the bedrock.</p> <p>Verify that there are at least 200 ft between the staging, processing, curing, and storage areas of the leaf and yard waste composting facility and any bedrock public wells.</p> <p>Verify that there are at least 200 ft separation from private wells and 1000 ft separation from gravel pack public wells (relative to the distance between the staging, processing, curing and storage areas of the leaf and yard waste composting facility and such wells).</p> <p>Verify that the composting site is not located on a public well field.</p> <p>Verify that buffers, such as trees, walls, fences, natural or man made topographic features, are installed to mitigate noise, odors, litter and other potential impacts on neighboring properties.</p> <p>Verify that the composting site is not located on a wellhead protection area.</p> <p>Verify that at a leaf and yard waste composting facility which is located on top of a closed solid waste disposal area, composting is conducted on a pad to prevent disruption of the landfill cap and underlying waste.</p> <p>Verify that the pad is constructed of well compacted, well drained soil, no less than 2 ft thick and sloped at 2 to 5 percent to promote surface drainage.</p>
<p><b>SO.165.17.RI.</b> Putrescible waste composting facilities must prevent groundwater pollution (CRIR 12 030</p>	<p>Verify that no composting facility is constructed where solid waste may be in direct contact with groundwaters of the State.</p> <p>Verify that there is a minimum of 3 ft of soil between the highest water table</p>

<b>COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
028(8.4.04.C)) [Added March 1998].  <b>SO.165.18.RI.</b> Putrescible waste composting facilities must have an odor-complaint hot line (CRIR 12 030 028(8.4.05.D)) [Added March 1998].  <b>SO.165.19.RI.</b> Putrescible waste composting facilities must meet fire protection requirements (CRIR 12 030 028(8.4.06)) [Added March 1998].  <b>SO.165.20.RI.</b> Putrescible waste composting facilities must have an on-site water supply (CRIR 12 030 028(8.4.11)) [Added March	level and the lowest level of composting pile.  Verify that no composting facility is located within 200 ft of an existing bedrock public water supply well, and within 1000 ft of a gravel pack public well.  (NOTE: The Director may require a greater separation if these minimum separation distances will not ensure protection of public health.)  Verify that the composting facility has an odor-complaint hot line with the ability to receive all calls on a 24 h per day basis (an answering machine may be used for this purpose.)  Verify that complaints received during normal operating hours are investigated and responded to immediately, and complaints received during times when the facility is closed are investigated and responded to within 12 h from when the complaint is received.  Verify that all complaints received by the facility and actions taken in response to the complaints are reported to the Department within 24 hours from when the complaint was received.  Verify that the facility operating plan indicates how the odor complaint hot line is to be established and what actions will be taken when odor complaints are received.  Verify that odor complaint forms are created and maintained by the facility.  Verify that composting sites do not pose a hazard to the safety of persons or property from fires.  Verify that all composting sites submit site locator plans, site sketches, and operating plans to the local fire department for their review and notification so as to provide emergency service.  Verify that all composting sites and site equipment (dozers and front end loaders) are equipped with fire extinguishers.  Verify that an on-site water supply is available to maintain proper moisture levels in the windrow.  (NOTE: If no on-site water is available, then a water truck may be substituted for windrow watering only.)

**COMPLIANCE CATEGORY:  
SOLID WASTE MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p>1998].</p> <p><b>SO.165.21.RI.</b> Putrescible waste composting facilities must meet monitoring requirements (CRIR 12 030 028(8.4.12)) [Added March 1998].</p>	<p>Verify that water used to maintain windrow moisture does not adversely impact the finished compost.</p> <p>Verify that there is compost thermometer available on site, 3 to 4 ft in length, capable of reading between 0° - 200°F.</p> <p>Verify that a written record is maintained of:</p> <ul style="list-style-type: none"> <li>- windrow temperatures (recorded at least twice per wk)</li> <li>- ambient air temperature at time of recording;</li> <li>- weather conditions</li> <li>- odors (if detected)</li> <li>- pile moisture conditions and site observations.</li> </ul> <p>(NOTE: This requirement may be modified or waived with Department approval, provided satisfactory operating conditions have been maintained and demonstrated for a length of time satisfactory to the Department.)</p>
<p><b>SO.165.22.RI.</b> The composting pad at putrescible waste composting facilities must meet design and construction requirements (CRIR 12 030 028(8.4.14)) [Added March 1998].</p>	<p>Verify that the composting pad is designed to support heavy equipment.</p> <p>Verify that the pad is permeable enough to prevent ponding of surface water and firm enough to prevent ruts in all seasons.</p> <p>Verify that pads are graded between a 2 and a 5 percent slope.</p> <p>Verify that where existing site soil that is not permeable enough to prevent standing water or firm enough to prevent ruts, a pad is constructed that:</p> <ul style="list-style-type: none"> <li>- is constructed of bank run gravel or the equivalent</li> <li>- that consists of a layer of at least 12 in. of bank, run gravel or the equivalent.</li> </ul> <p>Verify that impermeable pads are used only if approved, and that:</p> <ul style="list-style-type: none"> <li>- have systems for collection and management of run-off</li> <li>- are designed to ensure that on-site drainage systems do not clog.</li> </ul>
<p><b>SO.165.23.RI.</b> Putrescible waste composting facilities must control sedimentation and run-off (CRIR 12 030 028(8.4.15)) [Added March</p>	<p>Verify that there is a drainage system to prevent sediment or run-off water from migrating off-site.</p> <p>Verify that ground surface upgradient of the site is prepared to prevent water seepage into composting and curing piles.</p>

<b>COMPLIANCE CATEGORY:</b> <b>SOLID WASTE MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
1998].	<p>Verify that drainage control measures are designed to accommodate the net increases in run-off from a 24 h, 25 yr storm event.</p> <p>Verify that putrescible waste composting facilities are not located in 100 yr flood plains, unless provisions have been made to prevent encroachment of flood waters onto the facility and approval has been obtained from the Office of Water Resources.</p>
<b>SO.165.24.RI.</b> Windrows at putrescible waste composting facilities must meet size and positioning standards (CRIR 12 030 028(8.4.16)) [Added March 1998].	<p>Verify that windrows are placed along the fall line of the composting pad (parallel to the slope of the pad).</p> <p>Verify that windrow height and width are such that the windrow turning equipment used can mix all leaf and yard waste easily and thoroughly, and are in no case greater than 12 ft in height and 24 ft in width, and positioned so as not to allow water ponding between the windrows.</p> <p>Verify that windrows are positioned to allow for fire vehicle access.</p>
<b>SO.165.25.RI.</b> Putrescible waste composting facilities must screen incoming loads (CRIR 12 030 028(8.4.17)) [Added March 1998].	<p>Verify that there are waste receiving area control procedures that:</p> <ul style="list-style-type: none"> <li>- provide for the screening and inspection of the incoming waste stream to prevent the acceptance of prohibited or unauthorized waste types</li> <li>- remove undesirable materials prior to the initiation of composting, as provided in the approved operating plan.</li> </ul>
<b>SO.165.26.RI.</b> Putrescible waste composting facilities must meet waste storage requirements (CRIR 12 030 028(8.4.18)) [Added March 1998].	<p>Verify that the unloading of solid waste is controlled and restricted to an area so that the material can easily be incorporated into the putrescible composting facility.</p> <p>Verify that windblown refuse is eliminated or controlled by using fences or other comparable means, and that the putrescible waste composting facility is kept free from windblown refuse at all times.</p> <p>Verify that any brush accepted at a putrescible waste composting facility is chipped within 1 wk after arrival, unless otherwise approved by the Department.</p> <p>(NOTE: Chipped brush may be stored for approved time periods in designated areas in quantities and pile sizes approved by the Department.)</p> <p>Verify that putrescible wastes are incorporated into the active composting process immediately upon arrival at the composting facility.</p>

**COMPLIANCE CATEGORY:  
SOLID WASTE MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
	<p>Verify that grass clippings are incorporated into the windrows within 3 days of delivery to the site.</p> <p>Verify that designated storage areas are provided for composting materials that minimize odors, run-off, and do not adversely impact the composting facility.</p> <p>Verify that windrows do not contain materials and wastes for more than a 12 mo period (composting must be completed within this time frame).</p> <p>Verify that moisture in the windrow is maintained in a manner that continues the composting process, and that the moisture level is maintained between 40 and 60 percent by weight.</p> <p>Verify that in the windrow and turn method, windrows are turned as often as necessary to continue aerobic composting and to prevent odors.</p> <p>Verify that in static aerated windrow composting, windrows are mechanically aerated as often as is necessary to continue aerobic composting and to prevent foul odors.</p> <p>Verify that windrows are turned as often as is necessary to mitigate the dispersion of dust or any potential bioaerosols.</p> <p>Verify that windrows are moist, or water sprayed, during the windrow turning process.</p>
<p><b>SO.165.27.RI.</b> Putrescible waste composting facilities must meet vector control requirements (CRIR 12 030 028(8.4.21)) [Added March 1998].</p>	<p>Verify that the on-site vector population is minimized utilizing techniques, approved by the Department, that will protect public health.</p> <p>Verify that gull control procedures are employed that meet the requirements of Rhode Island General Assembly Act 94-H 8872.</p>
<p><b>SO.165.28.RI.</b> Putrescible waste composting facilities must meet compost storage area requirements (CRIR 12 030 028(8.4.22)) [Added March 1998].</p>	<p>Verify that the compost storage area is no smaller than at least 15 percent the size of the windrow composting area.</p> <p>Verify that curing is a minimum of 1 mo.</p>
<p><b>SO.165.29.RI.</b> Putrescible waste composting facilities</p>	<p>Verify that aerated static piles have:</p>

<b>COMPLIANCE CATEGORY:</b> <b>SOLID WASTE MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<p>must meet specific operating requirements (CRIR 12 030 028(8.4.23) through (8.4.25)) [Added March 1998].</p>	<ul style="list-style-type: none"> <li>- a maximum height of 12 ft</li> <li>- a maximum width of 24 ft</li> <li>- perforated PVC pipe with a minimum 4 in. diameter</li> <li>- porous substrate (wood chips, sawdust or other porous material)</li> <li>- organic blankets a minimum of 6 inches (wood chips, compost, sawdust)</li> <li>- centrifugal type blower fans.</li> </ul> <p>Verify that for in-vessel composting:</p> <ul style="list-style-type: none"> <li>- a professional engineer submits design plans</li> <li>- a process flow design is included</li> <li>- a leachate collection system is included</li> <li>- there is an impermeable pad.</li> </ul> <p>Verify that for static aerated composting systems:</p> <ul style="list-style-type: none"> <li>- they are mechanically aerated as often as necessary to continue aerobic composting and to prevent foul odors</li> <li>- windrow height and width is governed by windrow turning equipment</li> <li>- there is a maximum height of 12 ft</li> <li>- there is a maximum width of 24 ft.</li> </ul>
<p><b>Mixed Solid Waste Composting Facilities</b></p>	<p>(NOTE: This section applies to the construction or operation of a facility to produce compost from mixed solid waste or from mixed solid waste and other co-composting wastes, such as sewage sludge or septage. It does not apply to construction or operation of a facility to produce compost from leaf or yard waste, from putrescible wastes, or from agricultural by-products. Persons in households that intend to do backyard composting of waste generated on site are exempt. Backyard composting of sewage sludge or septage is not allowed (CRIR 12 030 028(8.5.02)).)</p> <p>(NOTE: Mixed solid waste composting facilities are subject to the general requirements for solid waste disposal facilities; see SO.5.2.RI. through SO.5.16.RI.)</p>
<p><b>SO.165.30.RI.</b> Mixed solid waste composting facilities must be licensed (CRIR 12 030 028(8.5.01)) [Added March 1998].</p>	<p>Verify that mixed solid waste composting facilities are not constructed or operated without a license approved by the Director.</p>
<p><b>SO.165.31.RI.</b> Mixed solid waste composting facilities must screen incoming loads</p>	<p>Verify that there are waste receiving area control measures that provide for the screening and inspection of the incoming waste stream to prevent the acceptance of prohibited or unauthorized waste types and to remove unsuitable material,</p>

**COMPLIANCE CATEGORY:  
SOLID WASTE MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
(CRIR 12 030 028(8.7.06) and (8.7.07)) [Added March 1998].	<p>including household hazardous wastes, prior to processing.</p> <p>Verify that all wastes received by the facility are subjected to the screening and inspection procedures.</p> <p>(NOTE: Prohibited wastes include, but are not necessarily limited to, regulated hazardous waste, regulated medical waste, loads identified as unprocessed or unsegregated construction and demolition debris, and loads mostly consisting of non-organic wastes. Relative to composting, unsuitable wastes include wastes, that if put through the composting process will adversely affect compost quality, These wastes include, but are not necessarily limited to, household hazardous waste, used motor oil, asbestos, lead-acid batteries, white goods and other bulk), waste.)</p> <p>Verify that hazards to processing equipment (if any) are identified and removed prior to processing.</p> <p>(NOTE: Hazards include explosives, gas canisters that can explode, oversized materials, etc.)</p> <p>Verify that bags of municipal solid waste (MSW) are manually or mechanically opened to expose all content for inspection and sorting or processing.</p> <p>Verify that the Department is immediately notified if incoming waste analyses indicate there is a significant change in quality or make-up of the incoming waste stream.</p>
<p><b>SO.165.32.RI.</b> Co-composting wastes at mixed solid waste composting facilities must meet specific testing standards (CRIR 12 030 028(8.7.08)) [Added March 1998].</p>	<p>Verify that if the facility co-composts sewage or septage, then testing and analyses of these uncomposted materials is conducted.</p> <p>Verify that the Department is notified prior to the use of other material(s) as a source of nitrogen or the addition of bulking agents.</p> <p>Verify that if sewage sludge or septage is co-composted, it is tested initially prior to co-composting, and at least annually thereafter, for the complete TCLP set of parameters, and the lab test results from each test are submitted to the Department to verify that this uncomposted waste is not a hazardous waste.</p> <p>Verify that if sewage sludge or septage is to be co-composted, then additional characterization of this waste is done initially prior to co-composting and at least annually thereafter, including analyses for total Kjeldahl nitrogen, ammonia nitrogen, nitrate, nitrite, total phosphorus, total potassium, pH, total solids, total volatile solids, cadmium, copper, total chromium, mercury, nickel, lead, arsenic, molybdenum, selenium, and zinc.</p>

<b>COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>SO.165.33.RI.</b> Mixed solid waste composting facilities must meet time limits for processing incoming wastes (CRIR 12 030 028(8.7.09)) [Added March 1998].</p>	<p>Verify that incoming waste that is not immediately processed is confined to the designated storage area until processing occurs.</p> <p>Verify that incoming waste are processed within 3 d or disposed of in a manner acceptable to the Department.</p> <p>Verify that if the composting facility (including, but not limited to up-front processing operations or composting operations) is out of service for a longer period of time than the storage capacity of the site will allow, additional solid waste is not received at the facility during the outage period.</p>
<p><b>SO.165.34.RI.</b> Mixed solid waste composting facilities must have alternate disposal methods in case of shutdowns (CRIR 12 030 028(8.7.10)) [Added March 1998].</p>	<p>Verify that the composting facility has an alternate method of disposal, in writing, with another in-state or out-of-state licensed solid waste management facility, in the event of equipment failure or forced shut-down or other reason which prevents the facility from receiving or processing a part or all of its normal solid waste input, or maintaining acceptable operating conditions and environmental controls.</p> <p>Verify that if the facility becomes inoperable, the Department is notified within 48 h and contingency disposal plan is implemented immediately.</p>
<p><b>SO.165.35.RI.</b> Mixed solid waste composting facilities must meet management requirements for recyclables (CRIR 12 030 028(8.7.12)) [Added March 1998].</p>	<p>Verify that removal and handling of waste for recycling, salvage, or utilization is performed in a controlled manner that does not impede the proper operation of the facility, that ensures the health and safety of all persons engaged in such activities, and prevents nuisances and vector intrusion.</p> <p>Verify that recyclables that are separated from the mixed waste stream and not immediately removed off-site for recycling are stored in a manner and for a time period that is approved by the Department, as provided for in the approved operating plan.</p>
<p><b>SO.165.36.RI.</b> Mixed solid waste composting facilities must meet management requirements non-compostable residuals (CRIR 12 030 028(8.7.13)) [Added March 1998].</p>	<p>Verify that non-compostable residuals from up-front processing or from composting operations, if not immediately removed off-site for disposal, are stored in a manner for a time period that is approved by the Department, as provided for in the approved operating plan.</p> <p>Verify that storage of residuals is done in a manner that prevents nuisances and vector intrusion.</p> <p>Verify that residuals are disposed at a licensed solid waste management facility,</p>

<b>COMPLIANCE CATEGORY:</b> <b>SOLID WASTE MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<p><b>SO.165.37.RI.</b> Mixed solid waste composting facilities must manage odors (CRIR 12 030 028(8.7.15)) [Added March 1998].</p>	<p>except if the residuals can be recycled off-site.</p> <p>Verify that the composting facility prevents and eliminates conditions that create odors.</p> <p>Verify that the composting facility is operated to control any odors that are created.</p> <p>Verify that the composting facility has an odor-complaint hot line with the ability to receive all calls on a 24 h per day basis (an answering machine may be used for this purpose.)</p> <p>Verify that complaints received during normal operating hours are investigated and responded to immediately, and complaints received during times when the facility is closed are investigated and responded to within 12 h from when the complaint is received.</p> <p>Verify that all complaints received by the facility and actions taken in response to the complaints are reported to the Department within 24 hours from when the complaint was received.</p> <p>Verify that the facility operating plan indicates how the odor complaint hot line is to be established and what actions will be taken when odor complaints are received.</p> <p>Verify that odor complaint forms are created and maintained by the facility.</p>
<p><b>SO.165.38.RI.</b> Mixed solid waste composting facilities must control vectors (CRIR 12 030 028(8.7.16)) [Added March 1998].</p>	<p>Verify that the composting facility minimizes the on-site vector population using appropriate techniques to protect public health.</p> <p>Verify that conditions are maintained that are sanitary and therefore unfavorable for the harboring, feeding, and breeding of vectors.</p> <p>Verify that the control of insects and rodents, when needed, is effected by means of a program directed by a professional exterminator utilizing insecticides or rodenticides or other means approved by the Department.</p> <p>Verify that use of pesticides is performed with care, so that composting waste and finished compost is not contaminated.</p> <p>Verify that the operator inspects the facility daily to detect any vectors and promptly take corrective action.</p>

<b>COMPLIANCE CATEGORY:</b> <b>SOLID WASTE MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<b>SO.165.39.RI.</b> Mixed solid waste composting facilities must monitor for hot spots (CRIR 12 030 028(8.7.19)) [Added March 1998].	<p>Verify that the composting facility inspects daily to detect hot spots in a storage or composting area, and promptly takes corrective action, when necessary.</p>
<b>SO.165.40.RI.</b> Mixed solid waste composting facilities must control surface water run-on and run-off (CRIR 12 030 028(8.7.24)) [Added March 1998].	<p>Verify that surface water and stormwater is diverted away from the operating area, to include all areas where waste is received, stored, processed, and composted, and cured, as well as the finished compost storage area and any waste residual storage area.</p> <p>Verify that surface water, stormwater, and any other water that comes in contact with wastes that do not meet the specifications for finished compost are considered leachate and diverted to the collection area for proper disposal or re-use in waste processing or composting.</p> <p>Verify that the composting facility employs procedures to prevent and minimize erosion and sedimentation during construction, operation, and after closure.</p>
<b>SO.165.41.RI.</b> Mixed solid waste composting facilities must manage leachate (CRIR 12 030 028(8.7.25)) [Added March 1998].	<p>Verify that all leachate is managed by a Department approved method and treated, if necessary, to meet any applicable requirements.</p> <p>Verify that all liquid waste received or generated at the composting facility is contained, collected, recycled, or properly disposed of.</p> <p>Verify that any waste water and liquid waste that is not recycled, but instead disposed, is disposed in a manner that does not pollute any source of private or public water supply, any waters of the state, or groundwater.</p>
<b>SO.165.42.RI.</b> Mixed solid waste composting facilities must meet operational recordkeeping requirements (CRIR 12 030 028(8.7.26.A through L)) [Added March 1998].	<p>Verify that the composting facility records and maintains (for at least 3 yr) the following information:</p> <ul style="list-style-type: none"> <li>- source, description and quantity of all wastes received at the facility, as well as additives, seed material, bulking agents, or other materials to be used in the composting process, recorded on a daily basis, on their day of receipt</li> <li>- the description and quantity, by weight or volume, of prohibited or non-processible wastes transported from the facility and destination of such waste, recorded on a daily basis (these wastes include, but are not limited to, any hazardous, non-permitted, bulky, or other special wastes in the incoming waste stream which have been separated out)</li> <li>- the description and quantity, by weight or volume, for each category of recyclable, salvaged, or recovered material transported from the facility and</li> </ul>

<b>COMPLIANCE CATEGORY:</b> <b>SOLID WASTE MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<p><b>SO.165.43.RI.</b> Mixed solid waste composting facilities must meet recordkeeping requirements for finished compost (CRIR 12 030 028(8.7.26.M)) [Added March 1998].</p>	<p>destination of such waste, recorded on a daily basis</p> <ul style="list-style-type: none"> <li>- the description and quantity, by weight or volume, of compost residues, or other processed non-compostable residue or foreign matter transported from the facility for disposal and destination of such solid waste, recorded on a daily basis</li> <li>- the description and quantity by weight or volume, of any waste by-passed by the facility in the event of equipment failure or forced outage or other reason which prevents the facility from receiving or processing this waste</li> <li>- the quantity of non-marketable composted material, by weight or volume, transported from the facility for disposal and destination of such material, recorded on a daily basis</li> <li>- for both bagged and bulk compost, the quantity by weight or volume, of finished, marketed compost, transported from the facility, and the planned location and proposed use of the compost, for each compost procurer or buyer of greater than 10 yd<sup>3</sup> of compost, recorded on a daily basis</li> <li>- a daily temperature log, for each monitoring point in compost piles, windrows, or beds, which at least includes the monitoring point I.D., (including identification of particular composting pile, windrow or bed and location within the pile, windrow or bed), age of the pile, windrow or bed at the particular monitoring point (i.e., number of days since composting commenced), date, time, temperature reading, data collection method and name of person collecting data</li> <li>- a daily moisture log, which describes composting pile, windrow or bed inspections and any actions taken to maintain proper moisture, including addition of water</li> <li>- for the windrow method of composting, a daily log for each windrow, which includes windrow I.D., date composting commences, and dates of turning of the windrow (to aerate and mix pile)</li> <li>- for other methods of composting, a daily log, which includes pile or bed I.D., date composting commences and dates of aeration of the pile or bed</li> <li>- a composting time retention log, which identifies, for each pile, windrow, or bed being composted, the total number of days elapsed from commencement of composting to completion of the entire composting processing [including high-rate decomposition, stabilization, curing and refining, (if applicable)]</li> <li>- if sewage sludge or septage is co-composted, all lab analyses of all tests performed on representative samples.</li> </ul> <p>Verify that relative to sampling and testing, and classification of finished compost:</p> <ul style="list-style-type: none"> <li>- a sampling log is kept with an entry for each batch of finished compost to be sampled and tested, per the approved sampling plan, to include the compost batch I.D., the date and time of sampling, the sampling method and location, the name of the person performing the sampling, and the lab to which</li> </ul>

<b>COMPLIANCE CATEGORY:</b> <b>SOLID WASTE MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<p><b>SO.165.44.RI.</b> Mixed solid waste composting facilities must meet management recordkeeping requirements (CRIR 12 030 028(8.7.26.N through P)) [Added March 1998].</p>	<p>samples were sent</p> <ul style="list-style-type: none"> <li>- all lab analyses of all tests performed on samples of finished compost are retained</li> <li>- a compost classification log is kept, which includes, for each batch of finished compost, the compost batch I.D., the classification assigned to that batch, and supporting information used by the facility to justify assigning that classification.</li> </ul> <p>Verify that a record of actions log is kept which provides a summary of corrective actions taken by the composting facility relative to any deficiencies noted in Department inspection reports and relative to any deficiencies or violations issued by the Department in letters of deficiency or notices of violations.</p> <p>Verify that the composting facility keeps a record of all maintenance procedures on processes, equipment, or monitoring and control systems, and site inspection records.</p> <p>Verify that training records that document the type and amount of training received by current facility personnel are maintained at the facility in accordance with the operating plan.</p>
<p><b>SO.165.45.RI.</b> Mixed solid waste composting facilities must meet specific equipment requirements (CRIR 12 030 028(8.7.28)) [Added March 1998].</p>	<p>Verify that there is on-site equipment necessary for facility operation in accordance with the license, and that the equipment is maintained in an operable condition.</p> <p>Verify that replacement equipment and parts for equipment which is subject to excess wear or frequent breakdown, due to the nature of operation, is stored on-site or at a place where it can be available within twenty-four hours, to provide expedient repair.</p> <p>Verify that if a breakdown of equipment occurs, standby equipment is utilized as necessary to comply with any license condition.</p>
<p><b>SO.165.46.RI.</b> Mixed solid waste composting facilities must meet inspection and maintenance requirements (CRIR 12 030 028(8.7.29)) [Added March 1998].</p>	<p>Verify that all facility components, systems, and equipment are maintained in a manner that facilitates proper operation and minimizes downtime.</p> <p>Verify that immediately following the initiation of facility operation, facility personnel begin routine inspection for operating effectiveness and equipment/component/system deterioration or malfunction.</p>

**COMPLIANCE CATEGORY:  
SOLID WASTE MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>SO.165.47.RI.</b> Mixed solid waste composting facilities must meet health and safety requirements (CRIR 12 030 028(8.7.30)) [Added March 1998].</p> <p><b>SO.165.48.RI.</b> Mixed solid waste composting facilities must meet fire and emergency requirements (CRIR 12 030 028(8.7.31) and (8.7.32)) [Added March 1998].</p> <p><b>SO.165.49.RI.</b> Mixed solid waste composting facilities must meet staffing requirements (CRIR 12 030 028(8.7.33) and (8.7.34)) [Added March 1998].</p>	<p>Verify that a planned maintenance and overhaul schedule for major equipment is established and executed during facility operation.</p> <p>Verify that the composting facility is designed, operated, and maintained in such a manner so as to protect the health and safety of users of the facility and personnel associated with facility operation, and persons in close proximity to the facility.</p> <p>Verify that first aid facilities and supplies are available at the composting facility.</p> <p>Verify that the composting facility is maintained and operated to prevent and minimize the potential for fire or explosion.</p> <p>Verify that the composting facility has a suitable quantity of water at sufficient pressures suitable for fire-fighting purposes, approved by the local fire authority.</p> <p>Verify that portable fire extinguishers and fire control equipment are available and in proper working condition, at the operating area of the composting facility.</p> <p>Verify that the composting facility has arrangements, in writing, from nearby fire departments, police, rescue services, medical services, and a hazardous waste emergency response company and hazardous waste transporter, to provide emergency services in case of facility fires, explosions, hazardous waste incidents or other similar emergencies.</p> <p>Verify that there is at least one trained attendant (trained in the operation of the facility) on site during any and all operating hours that the facility is open to receive waste.</p> <p>Verify that there are sufficient types of quantity and personnel during each operating shift to assure the proper and orderly operation of all components and systems, along with the ability to handle all routine maintenance requirements.</p> <p>Verify that the personnel have sufficient educational background, employment experience, or training to enable them to perform their duties in a safe and competent manner.</p> <p>Verify that each operating shift has a designated shift supervisor or equivalent to direct and implement operational decisions during that shift.</p> <p>Verify that the operation of the composting facility is under the supervision and control of qualified individuals during all operating hours.</p>

<b>COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>SO.165.50.RI.</b> Mixed solid waste composting facilities must meet training requirements (CRIR 12 030 028(8.7.35)) [Added March 1998].</p>	<p>Verify that there is a comprehensive training program for all employees covering normal job responsibilities and procedures, emergency situations and procedures, and safety issues.</p> <p>Verify that employees involved with operation and/or maintenance of the facility receive training at least annually.</p> <p>Verify that facility-specific training manuals are used for training facility personnel.</p> <p>Verify that the manual is kept up-to-date, with any necessary revisions made at least annually.</p> <p>Verify that the manual is kept in a readily accessible location and available for inspection by the Department.</p> <p>Verify that operating and maintenance personnel receive their initial training prior to assumption of operational/maintenance activities.</p>
<p><b>SO.165.51.RI.</b> Mixed solid waste composting facilities must have emergency contingency plans (CRIR 12 030 028(8.7.36)) [Added March 1998].</p>	<p>Verify that contingency plans and procedures to handle fires, explosions, hazardous waste incidents and similar emergencies are developed for facility personnel in conjunction with local authorities (police, rescue, fire, medical groups, hazardous waste response companies and transporters), prior to facility operation.</p>
<p><b>SO.165.52.RI.</b> Mixed solid waste composting facilities must meet requirements for finished compost storage and removal (CRIR 12 030 028(8.7.38)) [Added March 1998].</p>	<p>Verify that the amount of finished compost stored at the composting facility does not exceed the designed finished compost storage capacity.</p> <p>Verify that storage of finished compost on site is limited to twelve months, and that any finished compost that is not used or sold within twelve months is removed from the site.</p> <p>Verify that processed material which does not meet specifications for compost is managed as residual waste and disposed of off-site in a manner and schedule consistent with testing approved by the Department.</p> <p>Verify that incoming solid waste is not mixed with finished compost.</p> <p>Verify that, in order to discourage re-introduction of contaminants, pathogens, and weed seeds, finished compost does not have any such unprocessed waste mixed in.</p>

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT Rhode Island Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 1998
	<p>Verify that finished compost is not stored where continuous or intermittent contact can occur between compost and groundwater.</p> <p>Verify that finished compost is stored in a manner which does not create a dust or odor nuisance for off-site receptors.</p>



**COMPLIANCE CATEGORY:  
SOLID WASTE MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: Revised March 1998</b>
<p><b>SO.175. OTHER TREATMENT / PROCESSING UNITS</b></p> <p><b>Petroleum Contaminated Soil Processing Facilities</b></p> <p><b>SO.175.1.RI.</b> Petroleum contaminated soils must be sampled and analyzed prior to processing (CRIR 12 030 026(6.2.01) through (6.2.04)) [Added March 1998].</p> <p><b>SO.175.2.RI.</b> Petroleum contaminated soils must be transported in a secure manner (CRIR 12 030 026(6.2.05)) [Added March 1998].</p>	<p>(NOTE: Petroleum contaminated soil processing facilities are subject to the general requirements for solid waste management facilities; see SO.5.2.RI. through SO.5.16.RI.)</p> <p>Verify that the contaminated soil is sampled and tested to adequately characterize it and to minimize the potential of accepting hazardous materials or materials that the soil processor is not permitted to accept.</p> <p>Verify that samples of contaminated soil from field sites are tested in a certified laboratory as part of the soil verification procedures.</p> <p>Verify that soil arriving at the processing facility is inspected, sampled, and tested.</p> <p>Verify that appropriate sampling of soil arriving at the facility is performed in order to adequately fingerprint the soil and minimize the potential for accepting hazardous waste.</p> <p>Verify that measures are employed to minimize precipitation run-on, prevent loss of soil or contaminants from the truck, and prevent a spill of material, while in transit.</p> <p>(NOTE: This applies to incoming soils and outgoing rejected contaminated soil or processed soil.)</p> <p>(NOTE: Recommended measures include:</p> <ul style="list-style-type: none"> <li>- secured cover placed over the soil</li> <li>- a gate sealing method to prevent leakage of any run-off of soil contaminant</li> <li>- a chain wrapped around the gate, as an additional securing feature to prevent the weight of the load from forcing open the gate.)</li> </ul>



<b>COMPLIANCE CATEGORY:</b> <b>SOLID WASTE MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>Revised March 1998</b>
<b>SO.180.</b> <b>CLOSURE OF SOLID WASTE FACILITIES</b>  <b>SO.180.1.RI.</b> Solid waste management facilities must meet specific closure requirements (CRIR 12 030 021(1.7.14)) [Added March 1998].	<p>Verify that all solid waste management facilities notify the Department at least 3 mo prior to the anticipated date that closure operations are to begin.</p> <p>Verify that the solid waste management facility implements the approved closure plan.</p> <p>Verify that after the closure plans have been fully implemented, the Department is notified so that an inspection may be made by Department personnel.</p> <p>Verify that a professional engineer registered in the State of Rhode Island certifies that the facility is properly closed in accordance with the approved closure plan.</p>



## Appendix 9-1

### Regulated Medical Waste - Definition and Exemptions

(Source: CRIR 12 030 017 2.03 and 2.04)

Regulated medical waste means a special category of solid waste that includes specific types of medical waste subject to the handling and tracking requirements of these regulations. A regulated medical waste is any waste, as defined in these regulations, generated in the diagnosis (including testing and laboratory analysis), treatment (e.g., provision of medical services), or immunization of human beings or animals, in research pertaining thereto, or in the preparation of human remains for burial or cremation, or in the production or testing of biologicals, or in the development of pharmaceuticals, that is listed in this section but is not excluded or exempted in Section 2.04 of these regulations. Regulated medical wastes mixed with nonhazardous solid wastes shall be considered regulated medical wastes. For the purposes of these regulations, the following categories of medical wastes are regulated medical waste:

- (a) cultures and stocks: Cultures and stocks of infectious agents and associated biologicals, including: cultures from medical and pathological laboratories; cultures and stocks of infectious agents from research and industrial laboratories; wastes from the production of biologicals; discarded live and attenuated vaccines; and culture dishes and devices used to transfer, inoculate, and mix cultures.
- (b) Pathological Wastes: Human pathological wastes, including tissues, organs, and body parts that are removed during surgery or autopsy, or other medical procedures (e.g., obstetrical procedures).
- (c) Human Blood, Body Fluids and Blood Products:
  - (1) liquid waste human blood or body fluids
  - (2) products of blood;
  - (3) items saturated and/or dripping with human blood or body fluids
  - (4) items that were saturated and/or dripping with human blood or body fluids that are caked with dried human blood or body fluids, including, but not limited to, serum, plasma, and other blood components, and their containers (e.g., blood bags and blood vials) and body fluids as defined in these regulations;
  - (5) specimens of body fluids and their containers.
- (d) Sharps: Sharps that have been used in animal or human patient care or treatment, including sharps generated from the preparation of human and animal remains for burial or cremation, or in medical, research, or industrial laboratories, including, but not limited to, hypodermic needles, syringes with or without the attached needle, pasteur pipettes, scalpel blades, blood vials, needles with attached tubing, glass carpules, and glass culture dishes regardless of presence of infectious agents. Also included are other types of broken or unbroken glassware that have been used in animal or human patient care or treatment, such as used slides and cover slips. For the purpose of these regulations, disposable syringes and needles are considered regulated medical waste after one use.
- (e) Animal Waste: Contaminated animal carcasses, body parts, and bedding of animals that were known to have been exposed to infectious agents during research, including research in veterinary hospitals, production of biologicals, or testing of pharmaceuticals.
- (f) Isolation Wastes: Biological waste and discarded materials contaminated with blood, excretion, exudates, or secretions from humans who are isolated to protect others from certain highly communicable diseases, or isolated animals known to be infected with highly communicable diseases. A list of these diseases may be found in Appendix IV.
- (g) Unused Sharps: Unused, discarded sharps, as defined in Section 2.03(d) of these regulations.
- (h) Spill/Cleanup Material: Any material collected during or resulting from the cleanup of a spill of regulated medical waste.

- (i) Mixtures: Any waste which is a mixture of regulated medical waste and some other type of waste which is neither radioactive nor a hazardous waste of a type other than regulated medical waste.

2.04 Regulated Medical Waste -- Exclusions and Exemptions: The following categories of medical waste are specifically excluded from the definition of regulated medical waste:

- (a) Hazardous Waste: Materials identified or listed under DEM Rules and Regulations for Hazardous Waste Management. Regulated medical waste that is mixed with hazardous waste shall be defined as hazardous waste and shall be regulated in accordance with DEM Rules and Regulations for Hazardous Waste Management.

- (b) Household Medical Waste.

- (1) Medical waste generated by individuals on the premises of a single-family home or single-family dwelling unit or by members of households residing in single and multiple residences, hotels, and motels which serve as a residence for individuals, provided the dwelling is not serving as a commercial or professional office where individuals who are not members of the family residing at such dwelling are receiving medical care by a health care professional.
- (2) The exemption in 2.04(a)(1) also includes the wastes generated by health care providers in private homes where they provide medical services to individuals residing in said home.
- (3) Medical waste generated and disposed of with residential solid wastes from a single family residential premise or single-family dwelling unit shall be exempt from these regulations except where such medical waste is generated from commercial or professional offices.

- (c) Incinerator Ash and Treatment/Destruction Residue: Regulated medical waste that has been both treated and destroyed is no longer regulated medical waste; this includes ash from incineration of regulated medical waste provided the ash meets the definition for treated regulated medical waste and destroyed regulated medical waste, and residues from wastes that have been both treated and destroyed (e.g., waste that has been subjected to decontamination and grinding, or chemical disinfection followed by grinding, or steam sterilization followed by shredding). Notwithstanding this exemption, incinerator ash and treatment/destruction residue may be a hazardous waste and shall be handled in accordance with the provisions of Section 2.04(a) of these regulations.

- (d) Human Remains: Human remains (e.g., corpses and anatomical parts) that are stored, transported, or otherwise managed for purposes of interment or cremation. However, regulated medical waste attached to, or within, a corpse is not exempt from these regulations and shall be removed and then managed as regulated medical waste according to these regulations.

- (e) Etiologic Agents: Etiologic agents that are being transported intrastate and/or interstate between facilities pursuant to regulations set by the U.S. Department of Transportation, the U.S. Department of Health and Human Services, and all other applicable shipping requirements.

- (f) Enforcement Samples: Enforcement samples, including samples of regulated medical waste obtained during enforcement procedures by authorized U.S. Environmental Protection Agency personnel and the State of Rhode Island.

- \* The term solid waste includes solid, semisolid, or liquid materials, but does not include domestic sewage materials identified in these regulations.

**Incinerator Ash Operating Standards**  
(Source: CRIR 12 030 024, Appendix B) [Added March 1998]

**Ash Sampling and Testing:** Facility ash residues shall be tested for hazardous characteristics. Sampling and testing will be in accordance with whatever techniques are acceptable to RIDEM and that, at minimum, satisfy the Code of Federal Regulations and/or U.S. EPA requirements. The procedures shall apply to either the combined or separate fly ash and bottom ash, dependent upon the EPA interpretation of the hazardous waste "mixing rule" at the concurrent time of incinerator start-up, shakedown, or during normal operation after the shakedown period.

Unless otherwise directed by RIDEM or unless the applicant proposes an alternate sampling and testing plan acceptable to RIDEM, the following guideline shall be used for ash sampling and testing:

- (1) Sampling will be performed in triplicate, i.e. each sampling will require the collection of three representative samples. The EPA interpretation of the hazardous waste "mixing rule" will determine the makeup of the three representative samples, i.e., three samples of combined ash or three samples each of the fly ash and bottom ash. Each representative sample will be taken in accordance with RIDEM approved sampling methods.
  - (2) Ash shall be tested daily for TCLP metals and wkly (starting with the first sample) for complete TCLP toxicity and 2,3,7,8-TCDD during the period of facility start-up and shakedown, and for six months thereafter. For an additional period of one year thereafter, daily testing for TCLP metals shall be employed, while the frequency of testing for complete TCLP toxicity and 2,3,7,8-TCDD will be reduced to once per month. RIDEM shall determine when shakedown has been completed and shall define the frequency and substance of testing that be required after this additional one year period. Complete TCLP toxicity includes testing for 8 metals, 6 pesticides and herbicides, and 25 other organic chemicals and any additional constituents required by revisions of the TC rule (if any).
- (b) **Ash Characterization:** Ash that is generated the day of sampling takes place and ash that is generated on subsequent day(s) until the next sampling will be determined to be hazardous waste or non-hazardous waste, based on the lab analysis of that sampling.
- (c) **Hazardous Ash Management:** Ash that is determined by testing to be hazardous waste shall be managed as hazardous waste to include storage, transportation, and disposal of the ash.
- (d) **Ash Disposal:** The facility must have an agreement in writing with at least one licensed solid waste management facility for the disposal of ash determined by testing to be non-hazardous waste. The facility must also have an agreement in writing with:
- (1) At least one licensed hazardous waste landfill for the permanent disposal of ash determined by testing to be hazardous waste or which the facility elects to dispose as hazardous waste; or
  - (2) At least one licensed hazardous waste storage facility for the temporary), storage of ash determined by testing to be hazardous waste or which the facility elects to dispose of as hazardous waste, pending a contract with a licensed hazardous waste landfill for permanent disposal.
- (e) **Hazardous Ash Removal:** Any ash residue determined by testing to be hazardous waste shall be removed from the site within 48 hours by the operator's licensed hazardous waste hauler to a licensed hazardous waste temporary storage facility or to a licensed hazardous waste landfill for permanent disposal.



## SECTION 10

### STORAGE TANK MANAGEMENT

Rhode Island Supplement, March 1998

This section covers the state requirements for Storage Tank Management and is intended to supplement the U.S. TEAM Guide. Refer to the U.S. TEAM Guide and the DOD Component Supplements for Federal, DOD, and service-specific requirements.

#### Definitions

- *Abandonment* - the relinquishment or termination of possession, ownership control of underground storage tanks (UST), by vacating or by disposition, without meeting closure requirements; or the action of taking UST or UST system out of operation for a period of greater than 180 consecutive days without the prior permission of the Director (Code of Rhode Island Rules (CRIR) 12 190 017.7).
- *Aquifer* - a geologic formation, group of formations, or part of a formation that contains sufficient saturated permeable material to yield quantities of water to wells and springs in quantities which in the aggregate are sufficient to supply the daily requirements of one or more persons (CRIR 12 190 017.7).
- *Best Extent Possible* - there shall be no reading at 2.5 centimeters from any potential leak source, greater than or equal to 100% of the lower explosive limit, LEL, measured as propane, as detected by a combustible gas detector using the test procedure described in Appendix B of the EPA document entitled "Control of Volatile Organic Compound Leaks from Gasoline Tank Trucks and Vapor Collection Systems" (EPA-450/2-78-051) (CRIR 12 031.011.1) [Added March 1998].
- *Bottom Filling* - the filling of a tank truck or stationary storage tank through an opening that is flush with the tank bottom (CRIR 12 031.011.1) [Added March 1998].
- *Bulk Gasoline Terminal* - a gasoline storage facility which receives gasoline from refineries primarily by pipeline, railroad tank car, ship, or barge, and delivers gasoline to bulk gasoline plants or to commercial or retail accounts primarily by tank truck; and has a daily throughput of more than 20,000 gal of gasoline (CRIR 12 031 011.1).
- *Bulk Gasoline Plant* - a gasoline storage and distribution facility with an average daily throughput of 20,000 gal or less but greater than 4,000 gal which receives gasoline from bulk terminals by trailer transport or railroad tank car, stores it in tanks, and subsequently dispenses it via account trucks to local farms, businesses, and service stations (CRIR 12 031 011.1).
- *Cathodic Protection* - a technique to prevent the corrosion of metal surfaces by making that surface the cathode of an electrochemical cell (CRIR 12 190 017.7).
- *Cathodic Protection Tester* - a person who can demonstrate an understanding of the principles and measurements of all common types of cathodic protection systems as applied to buried submerged metal piping and tank systems. At a minimum, such persons must have education and experience in soil resistivity, stray component electrical isolation measurements of buried metal piping and tank systems (CRIR 12 190 017.7).
- *Closure* - the removal from service of any UST consistent with the provisions of Section 15.00 (CRIR 12 190 017.7).

- *Commenced Construction* - that the owner/operator has obtained all governmental approvals or permits required to begin physical construction and has either:
  1. begun a continuous onsite physical construction program;
  2. entered into contractual obligations which cannot be canceled or modified without substantial loss and are payable upon physical construction of the facility (CRIR 12 190 017.7).
- *Commercial Tank* - any UST used in the furtherance of trade, traffic, business or commerce including, without limitation, tanks used to store heating oil for residential structures containing four or more living units (CRIR 12 190 017.7).
- *Community Water System* - a public water system which serves either:
  1. fifteen or more service connections used by year-round residents
  2. regularly serves 25 or more year-round residents (CRIR 12 190 017.7).
- *Compatible* - ability of two or more substances to maintain their respective physical and chemical properties upon contact with one another for the design life of the tank system under conditions likely to be encountered in the UST (CRIR 12 190 017.7).
- *Consultant* - a geologist certified by the American Institute of Professional Geologists, or a geologist registered by any state program, or a professional engineer registered in Rhode Island, or an engineer-in-training working under the supervision of a professional engineer (CRIR 12 190 017.7).
- *Contaminant* - any physical, chemical, biological or radiological substance in water which renders or is likely to render such water unfit its intended use or for any feasible use (CRIR 12 190 017.7).
- *Continuous Monitoring System* - an automatic, continuous leak detection and alarm system that operates independent of human assistance and meets industry standards such as those of Underwriters Laboratories (UL), and which is approved by the Director (CRIR 12 190 017.7).
- *Corrosion Expert* - a person who, by reason of thorough knowledge of the physical sciences and the principles of engineering and mathematics acquired by education and practical experience, is qualified to engage in the practice of corrosion control on buried or submerged metal tanks. Such a person must be accredited or certified by the National Association of Corrosion Engineers or be a registered professional engineer who has education and experience in corrosion control of buried or submerged metal piping systems and metal tanks (CRIR 12 190 017.7).
- *Daily Throughput* - the average amount of gasoline that a bulk gasoline terminal or plant dispenses in a day from that facility and is defined as the thirty day rolling average throughput of the facility. This is used to determine applicability, not compliance (CRIR 12 031.011.1) [Added March 1998].
- *DEM or The Department of Environmental Management* - the Rhode Island Department of Environmental Management and/or any Division thereof (CRIR 12 190 017.7).
- *Department* - the Department of Environmental Management (CRIR 12 030 003.3.14).
- *Diesel Fuel* - any grade of distillate oil, commonly referred to as "diesel", that is manufactured and sold for use, or is used, as fuel in an internal combustion engine; including petroleum products substituted for use as a diesel fuel (CRIR 12 190 017.7).
- *Director* - the Director of the Department of Environmental Management or his/her designee. Any documents or reports required to be submitted to the Director by these regulations are sent to: UST Program, R.I. Department of Environmental Management, 291 Promenade Street, Providence, Rhode Island 02908 (CRIR 12 190 017.7).

- *Double-Walled Tank* - a container with two complete shells providing both primary and secondary containment. The container shall have a continuous 360° interstitial space between the primary and secondary shell. The interstitial space shall be designed so that an approved interstitial space monitor is able to continuously monitor this space. All double-walled tanks shall be UL-listed (CRIR 12 190 017.7).
- *Dry Season* - that the time period during which the groundwater tables are at their lowest elevation at which they occur, usually falling during the months of May - December. Specific dates for the dry season will be determined on a yearly basis by the Director (CRIR 12 190 017.7).
- *Emergency Spill Protection Tank* - a tank used for temporary storage of substances in response to a leak, spill or other unplanned occurrence. This tank must be emptied expeditiously following use (CRIR 12 190 017.7).
- *Excavation Zone* - the underground area containing the tank system and backfill material, bounded by the ground surface, walls, and floor of the pit and trenches into or from which the UST system is installed or removed (CRIR 12 190 017.7).
- *Existing Facility* - a facility which is either in full operation; or where "substantial construction" has begun; or where construction on any modification was commenced prior to 31 October 1894 (CRIR 12 190 017.7).
- *External Floating Roof* - a storage vessel cover in an open top tank consisting of a double deck or pontoon single deck which rests upon and is supported by the petroleum liquid being contained and is equipped with a closure seal or seals to close the space between the roof edge and tank wall (CRIR 12 031.011.1) [Added March 1998].
- *Facility Component* - any underground tanks associated pipes, pumps, leak monitoring systems, cathodic protection systems, vaults, fixed containers or appurtenant structures, used or designed to be used for the storage, transmission, or dispensing of petroleum products and hazardous materials (CRIR 12 190 017.7).
- *Facility* - any parcel of real estate or contiguous parcels of real estate owned and/or operated by the same persons, which together with all land, structures, facility components, improvements, fixtures and other appurtenances located therein form a distinct geographic unit and at which petroleum products or hazardous materials are or have been stored in UST (CRIR 12 190 017.7); or all contiguous land, structures and other appurtenances and improvements on the land used for treating, storing or disposing of hazardous waste (CRIR 12 030 003.3.21).
- *Farm Tank* - an underground storage tank located on a tract of land operated by a farmer, provided that the material stored is used onsite (CRIR 12 190 017.7).
- *Farmer* - an individual, partnership or corporation who operates a farm and has filed a 1040F U.S. Internal Revenue Form with the Internal Revenue Service, has a state of Rhode Island farm tax number and has earned ten thousand dollars (\$10,000) gross income on farm products in each of the preceding 4 yr (CRIR 12 190 017.7).
- *Flow Through Process Tank* - any tank that is an integral part of a production process through which there is a steady, variable, recurring, or intermittent flow of materials during the operation of the process. Flow-through process tanks do not include tanks used for the storage of finished products or by products from a production process (CRIR 12 190 017.7).
- *Free Product* - any petroleum product or hazardous material that is present as a non aqueous phase liquid (e.g., liquid not dissolved in water) (CRIR 12 190 017.7).
- *GAA* - a classification of groundwater suitable for public drinking water use without treatment pursuant to R.I.G.L. 46-13.1-4 and any rules and regulations promulgated thereunder (12 100 005.5.00) [Added March 1998].

- *Gasoline* - a petroleum distillate, or blends of petroleum distillates, having a Reid Vapor Pressure of seven psi absolute (48.3 kPa) or greater and capable of being used as fuel for internal combustion engines (CRIR 12 190 017.7).
- *Gasoline Dispensing Facility* - any site where gasoline is dispensed to motor vehicle gasoline tanks from stationary storage vessels (CRIR 12 031.011.1) [Added March 1998].
- *Groundwater* - water found in the saturated zone underground; which completely fills the open spaces between particles of sediment and within rock formations (CRIR 12 190 017.7).
- *Hazardous Materials* - any material defined as a "hazardous substance" by Section 101(14) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 USC 9605), as amended. Hazardous materials shall also include any material defined as a "hazardous waste" pursuant to the Rhode Island Hazardous Waste Management Act of 1978, as well as any of the following materials (CRIR 12 190 017.7):
  1. Acetone
  2. Ethanol
  3. Ethylene Oxide
  4. Methanol
  5. Methylene Chloride
  6. Perchloroethylene
- *Heating Oil* - No. 1, No. 2, No. 4, No. 5, or No. 6, technical grades of fuel oil, other residual fuel oil, including bunker C and/or other fuels, except motor fuels or waste oils, when used as substitutes for any of these fuel oils used for the purpose of producing heat (e.g., burned in a furnace) (CRIR 12 190 017.7).
- *Hydraulic Conductivity* - a measure of the ability of an aquifer to transmit a fluid (CRIR 12 190 017.7).
- *Hydraulic Lift Tanks* - tanks holding hydraulic fluid for a closed-loop mechanical system using compressed air or hydraulic fluid to operate lifts, elevators, and other similar devices (CRIR 12 190 017.7).
- *Incompatible Wastes* - a hazardous waste which is unsuitable for (CRIR 12 030 003.3.35):
  1. placement in a particular device or facility because it may cause corrosion or decay of containment materials
  2. commingling with another waste or material under controlled conditions because the commingling might produce heat or pressure, fire or explosion, violent reaction, toxic dusts, mists, fumes or gases or flammable fumes or gases.
- *Leak*:
  1. a loss from or gain to a UST system of 0.05 gal/h or more of fluid as determined by a precision test, visual inspection, a continuous monitoring system inventory control, or other appropriate means (CRIR 12 190 017.7).
  2. a meter reading from a combustible gas detector greater or equal to 100 percent lower explosive limit as propane (CRIR 12 031.011.1) [Added March 1998].
- *Line Leak Detection System* - a device installed on the discharge side of a pump which is capable of interrupting product flow if there is a leak greater than or equal to (3) gal per hr (CRIR 12 190 017.7).
- *Local Fire Chief* - the person responsible for the administration and direction of a fire department in a fire district or municipality, including a fire administrator or chief, or that person's designee (CRIR 12 190 017.7).
- *Maintenance* - the normal operational upkeep of an underground storage tank system necessary to prevent a release of product (CRIR 12 190 017.7).

- *Modification* - any addition, replacement, restoration, refurbishment or renovation to an existing facility which either:
  1. increases or decreases the facility's storage capacity
  2. alters the facility's physical configuration
  3. alters the design and/or specifications of facility components
  4. impairs or affects the physical integrity of a facility or its monitoring systems (CRIR 12 190 017.7).
- *Monitoring Well* - a cased well with a screened interval that intercepts that water table and can be used to detect the presence of groundwater contamination. Monitoring wells are typically located outside of the tank excavation area (CRIR 12 190 017.7).
- *Monthly Throughput* - the amount of gasoline that a gasoline dispensing facility dispenses in a month. This amount is used to determine applicability, not compliance (CRIR 12 031.011.1) [Added March 1998].
- *Motor Fuels* - any petroleum or a petroleum-based substance, typically used in the operation of combustion (motor) engines, including but not limited to, gasoline, aviation gasoline, No. 1 or No. 2 diesel fuel, or any grade of gasohol (CRIR 12 190 017.7).
- *New Facility* - any facility that was not in operation or where substantial construction had not begun as of 1 November 1984 (CRIR 12 190 017.7).
- *NFPA 30* - the National Fire Protection Association publication number 30 entitled, "Flammable and Combustible Liquids Code", 1990 or current edition (CRIR 12 190 017.7).
- *NFPA 30(A)* - the National Fire Protection Association Publication Number 30A entitled "Automotive and Marine Service State Code," 1990 or current edition (CRIR 12 190 017.7).
- *NFPA 329* - the National Fire Protection Association publication number 329 entitled, "Handling Underground Releases of Flammable and Combustible Liquids," 1992 or current edition (CRIR 12 190 017.7).
- *No. 1 Fuel Oil* - a distillate oil, commonly referred to as kerosene, range oil, or jet propulsion fuel (JP-1) (CRIR 12 190 017.7).
- *No. 1-D Fuel Oil* - a distillate oil, commonly referred to as light diesel oil (CRIR 12 190 017.7).
- *No. 2 Fuel Oil* - a distillate oil, commonly referred to as home heating oil (CRIR 12 190 017.7).
- *No. 2-D Fuel Oil* - a distillate oil, commonly referred to as medium diesel oil (CRIR 12 190 017.7).
- *No. 4 Fuel Oil* - a distillate oil blend of No. 2 and No. 6 fuel oil (CRIR 12 190 017.7).
- *No. 5 Fuel Oil* - a distillate oil blend of No. 4 and No. 6 fuel oil (CRIR 12 190 017.7).
- *No. 6 Fuel Oil* - a distillate oil, commonly referred to as Bunker-C or residual fuel (CRIR 12 190 017.7).
- *Non-Community Water System* - a public water system that is not a community water system (CRIR 12 190 017.7).
- *Observation Well* - a well other than a monitoring well that is typically located in a tank excavation or the collection sump of a secondary containment system (CRIR 12 190 017.7).
- *Onsite* - located on the same or geographically contiguous property, which may be divided by public or private right-of-way provided the entrance and exit between the properties is at a cross roads intersection and access is by crossing as opposed to going along the right-of-way. Non- contiguous properties owned by the same person but

connected by a right-of-way which he controls and to which the public does not have access, is also considered onsite property (CRIR 12 190 017.7).

- *Operate a Facility* - to maintain petroleum products or hazardous materials in UST at a facility for purposes of storage, use or sale (CRIR 12 190 017.7).
- *Operator* - any person in control of or having responsibility for the daily operation of a facility (CRIR 12 190 017.7); or the person who is responsible for the operation of the facility (CRIR 12 030 003.3.48).
- *Overfill Protection* - a device that will (CRIR 12 190 017.7):
  1. alert the transfer operator when the tank is no more than 90 percent full by restricting the flow into the tank or triggering a high-level alarm
  2. automatically shutoff flow into the tank when the tank is no more than 95 percent full
  3. an equivalent device pre-approved by the Director.
- *Overflow Tank* - a tank used for temporary storage of substances in response to a leak, spill or other unplanned occurrence. This tank must be emptied expeditiously following use (CRIR 12 190 017.7).
- *Owner* - the person who owns the facility or part of the facility (CRIR 12 030 003.3.49); or any person who holds exclusive or joint title to or lawful possession of a facility or part of a facility (CRIR 12 190 017.7).
- *Owner/Operator* - owner and/or operator (CRIR 12 190 017.7).
- *Person* - an individual, trust, firm, joint stock company, corporation (including quasi-government corporation), partnership, or other unincorporated association, syndicate, governmental entity or subdivision thereof (CRIR 12 190 017.7); or a state, municipality, commission, political subdivision of a state, or any interstate body (CRIR 12 030 003.3.50).
- *Petroleum Product*:
  1. crude oil or any fractions thereof that is liquid at standard conditions of temperature (60 °F) and pressure (14.7 psi absolute) and includes substances derived from crude oil including, but not limited to the following (CRIR 12 190 017.7):
    - a. gasoline
    - b. fuel oils
    - c. diesel oils
    - d. waste oils
    - e. gasohol, lubricants and solvents.
  2. crude oil, condensate and any finished or intermediate products manufactured or extracted in a petroleum refinery whose true vapor pressure is greater than 1.52 psia (10.5 kilo pascals) at 69°F (CRIR 12 031.011.1) [Added March 1998].
- *Pollutant* - any material or effluent which may alter the chemical, physical, biological, or radiological characteristics and/or integrity of water, including, but not limited to, dredge spoils, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, cellar dirt or industrial, municipal, agricultural, or other waste, petroleum or petroleum products, including but not limited to oil (CRIR 12 190 017.7).
- *Precision Test* - a test able to determine whether or not an UST system is leaking as defined by NFPA 329, "Underground Leakage of Flammable and Combustible Liquids". The test shall be capable of accurately detecting a tank or piping leak as small as 0.1 gal/h, adjusted for all variables, with a probability of detection of no less than 95 percent and a probability of false detection of no more than 5 percent. Measurements recorded for each test shall be in accordance with manufacturer's protocol. The test method must be approved by the Director prior to use, and must be conducted by persons who have demonstrated the capability to properly conduct the test in accordance with Section 16.00 (CRIR 12 190 017.7).

- *Public Water System* - a system for the provision to the public of piped water for human consumption, provided such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year (CRIR 12 190 017.7).
- *Release* - any spilling, leaking, pumping, pouring, injecting, emitting, escaping, leaching, or disposing of any material stored in an UST system into groundwater, surface water or subsurface soils (CRIR 12 190 017.7).
- *Remove from Service* - to cease to operate a facility component (CRIR 12 190 017.7).
- *Replacement Tank* - a tank installed at an existing facility in place of a tank which has been permanently closed (CRIR 12 190 017.7).
- *Residential Tank* - a tank containing No. 2 heating oil serving no more than three one-family dwellings (CRIR 12 190 017.7).
- *Saturated Thickness* - the thickness of an aquifer below the water table (CRIR 12 190 017.7).
- *Spill Containment Basin* - a device installed in fill pipe manholes that prevents petroleum product or hazardous material spills from leaching into the soil and groundwater (CRIR 12 190 017.7).
- *Spill* - a loss of petroleum product or hazardous material in a manner other than a leak, occurring on the property where a facility is in operation, and such that the product or material is likely to enter groundwater or surface water, and shall be considered a release from a facility (CRIR 12 190 017.7).
- *Splash Filling* - the filling of a tank truck or stationary storage tank through a pipe or hose whose discharge opening is above the surface level of the liquid in the tank being filled (CRIR 12 031.011.1) [Added March 1998].
- *Stage II Vapor Collection and Control System* - a system which collects gasoline vapors displaced from motor vehicle gasoline tanks during refueling and which routes the vapors to a stationary storage tank (CRIR 12 031.011.1) [Added March 1998].
- *Storage* - the actual or intended containment of hazardous waste either on a temporary basis or for a period of years, in such a manner as not to constitute disposal of such hazardous waste (CRIR 12 030 003.3.57).
- *Storage Facility* - any facility that stores hazardous wastes and that has a closure plan that provides for the complete removal of all wastes (CRIR 12 030 003.3.58).
- *Stratified Drift* - the predominantly sorted sediments deposited in layers by meltwater from a glacier (CRIR 12 190 017.7).
- *Submerged Filling* - the filling of a tank truck or stationary tank through a submerged fill pipe whose discharge opening is entirely submerged when the pipe normally used to withdraw liquid from the tank can no longer withdraw any liquid (CRIR 12 031.011.1) [Added March 1998].
- *Submerged Fill Pipe* - any fill pipe the discharge opening of which is entirely submerged when the liquid level is six inches above the bottom of the tank; or when applied to a tank which is loaded from the side, shall mean any fill pipe the discharge of which is entirely submerged when the liquid level is 18 inches or twice the diameter of the fill pipe, whichever is greater, above the bottom of the tank (CRIR 12 031.011.1) [Added March 1998].
- *Substantial Construction* - that a continuous onsite physical construction program has progressed to a point where 25 percent or more of the total project is completed or where 25 percent or more of the total cost of the project has been expended for materials which are at the site (CRIR 12 190 017.7).

- *Substantial Modification* - any modification to a facility, facility component or any new facility plan that is inconsistent with the information provided to the Director in a facility's application for a certificate of registration or any modification that could be expected to result in reduced performance of a facility component as it relates to leak prevention or detection. Such modifications include, but are not limited to (CRIR 12 190 017.7):
  1. the installation of tanks that are not identified on the application for a certificate of registration for the facility
  2. the repair, relining or replacement of any underground storage tank
  3. the replacement or repair of any product piping
  4. any changes in type of petroleum product or hazardous material stored
  5. for a new facility, any alterations to the site plan
  6. any changes in the design or specifications of a facility's corrosion protection system
  7. any changes in the design, specifications or location of a facility's leak detection equipment, including groundwater monitoring wells.
- *Substantially Modified* - a modification of an existing gasoline dispensing facility which involves the addition, repair, replacement, or reconditioning of stationary storage tanks (CRIR 12 031.011.1) [Added March 1998].
- *Surface Water* - a body of water whose top surface is exposed to the atmosphere and includes all waters of the territorial sea, tidewaters, all inland waters of any river, stream, brook, pond, lake or wetlands (CRIR 12 190 017.7).
- *Tank* - a stationary device designed to contain an accumulation of hazardous waste which is constructed primarily of nonearthen materials which provide structural support (CRIR 12 030 003.3.60).
- *Tank Owner* - the owner of the real property on which an UST is located, unless a different party is identified in the facility registration documentation filed with the Department (CRIR 12 190 017.7).
- *Tank* - a stationary device designed to contain petroleum products or other regulated substances and which is constructed of nonearthen materials that provide structural support (CRIR 12 190 017.7).
- *Till* - the predominantly unsorted, unstratified sediments deposited directly by a glacier (CRIR 12 190 017.7).
- *Transmissivity* - a measure of the ability of an aquifer to transmit a fluid. It is equal to the average hydraulic conductivity multiplied by the saturated thickness (CRIR 12 190 017.7).
- *Underground* - 10 percent or more of the volume of the facility components (storage tanks and piping) is buried in the ground (CRIR 12 190 017.7).
- *UST or Underground Storage Tank (UST) System* - any one or more underground tanks and their associated components, including piping, used to contain an accumulation of petroleum product or hazardous material. The system shall include piping whose volume is 10 percent or more beneath the surface of the ground (CRIR 12 190 017.7).
- *Vapor* - those components of gasoline that have been volatilized to the gaseous phase from the liquid phase (CRIR 12 031.011.1) [Added March 1998].
- *Vapor Balance System* - a combination of pipes or hoses which create a closed system between the vapor spaces of an unloading vessel and a receiving vessel such that vapors displaced from the receiving vessel are transferred to the vessel being unloaded (CRIR 12 031.011.1) [Added March 1998].
- *Vapor Tight* - the condition where a combustible gas detector does not detect a leak of volatile organic materials when the probe of this meter is held parallel to the flow of volatile organic materials from the leak source (CRIR 12 031.011.1) [Added March 1998].

- *Vault* - a secondary enclosure which houses an UST and is designed to contain any leaks from the tank and provide protection from corrosive soils (CRIR 12 190 017.7).
- *Waste* - solid waste as defined in 40 CFR 261.2, as is or as amended (CRIR 12 030 003.3.69).
- *Waste Oil* - used or spent oil of any kind, including but not limited to those oils from automotive, industrial, aviation and other sources (CRIR 12 190 017.7).
- *Wellhead Protection Area* - the three-dimensional zone, surrounding a public well or wellfield through which water will move toward and reach such well or wellfield, as designated by the Director pursuant to 46-13.1 (CRIR 12 190 017.7).



**STORAGE TANK MANAGEMENT  
GUIDANCE FOR RHODE ISLAND CHECKLIST USERS**

**REFER TO CHECKLIST ITEMS:**

Aboveground Storage Tanks	ST.5.1.RI. through ST.5.11.RI.
Emissions/Discharges From Bulk Gasoline Terminals	ST.10.1.RI. through ST.10.7.RI.
Emissions/Discharges From POL Storage Vessels	ST.15.1.RI. through ST.15.4.RI.
Gasoline Dispensing Facilities: Stage I Vapor Control	ST.15.5.RI. through ST.15.7.RI.
Gasoline Dispensing Facilities: Stage II Vapor Control	ST.15.8.RI. through ST.15.10.RI.
Gasoline Tank Trucks	ST.15.11.RI. through ST.15.13.RI.
UST State-Specific	ST.30.1.RI. through ST.30.8.RI.
New or Upgraded USTs	ST.35.1.RI. through ST.35.11.RI.
UST Repairs	ST.55.1.RI.
Release Detection for USTs	
General	
Existing USTs	ST.60.1.RI. through ST.60.5.RI.
New or Replacement USTs	ST.60.6.RI. through ST.60.8.RI.
UST Releases	ST.80.1.RI. through ST.80.6.RI.
UST Documentation	ST.90.1.RI. through ST.90.3.RI.
Changes in Service or Closure of USTs	ST.95.1.RI. through ST.95.9.RI.
Hazardous Waste Storage Tanks	

(NOTE: Tanks used for the storage and/or treatment of hazardous wastes must be designed, constructed, and operated in a manner equivalent to that required by 40 CFR 264 Subpart J, as is or as amended (CRIR 12 030 003.9.19) [Added March 1998].



**COMPLIANCE CATEGORY:  
STORAGE TANK MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>ST.5. ABOVEGROUND STORAGE TANKS</b></p> <p><b>ST.5.1.RI.</b> Aboveground storage tanks with a remote fill must meet specific equipment requirements (CRIR 12 100 005.9.b and c) [Added March 1998].</p> <p><b>ST.5.2.RI.</b> Aboveground storage tanks with a capacity of 500 gal or greater must have overfill prevention (CRIR 12 100 005.10.b) [Added March 1998].</p> <p><b>ST.5.3.RI.</b> Aboveground storage tanks with a capacity of 500 gal or greater must have secondary containment (CRIR 12 100 005.10.c) [Added March 1998].</p>	<p>Verify that aboveground storage tanks with a remote fill and a capacity greater than or equal to 500 gallons are equipped with a high level warning alarm system.</p> <p>Verify that aboveground tanks with a remote fill and a capacity greater than 500 gallons are equipped with spill containment around fill areas.</p> <p>Verify that the tank operator or fuel carrier employs practices for preventing transfer spills and accidental discharges.</p> <p>Verify that, prior to the transfer, the operator or carrier determines that the receiving tank has available capacity to receive the volume of oil to be transferred.</p> <p>Verify that the operator or carrier monitors every aspect of the delivery and takes immediate action to stop the flow of oil when the working capacity of the tank has been reached or should an equipment failure or emergency occur.</p> <p>Verify that aboveground oil tanks are equipped with a gauge which accurately shows the level of product in the tank, is accessible to the operator and is installed so it can be conveniently read.</p> <p>Verify that the design capacity, working capacity and identification number of the tank are clearly marked on the tank and at the gauge.</p> <p>(NOTE: A high level warning alarm, a high level liquid pump cutoff controller or equivalent device may be used in lieu of the gauge required above.)</p> <p>Verify that a secondary containment system is installed around any aboveground oil storage tank with a capacity of 500 gal or greater.</p> <p>Verify that the secondary containment system is constructed so that spills of oil and chemical components of oil will not permeate, drain, infiltrate, or otherwise escape to the groundwater or surface water before cleanup can occur.</p> <p>(NOTE: The secondary containment system may consist of a combination of dikes, liners, pads, impoundments, curbs, ditches, sumps, receiving tanks or other equipment capable of containing the product stored.)</p>

<b>COMPLIANCE CATEGORY:</b> <b>STORAGE TANK MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<p><b>ST.5.4.RI.</b> Aboveground storage tanks with a capacity of 500 gal or greater must meet inspection requirements (CRIR 12 100 005.10.d) [Added March 1998].</p>	<p>Verify that the capacity of the containment system is at least 110 percent of the volume of the tank or 110 percent of the largest tank in a multiple tank containment system.</p> <p>(NOTE: Construction of the containment system, with the exception of the containment requirements, shall be in accordance with NFPA No. 30, section 2-2.3.)</p> <p>Verify that soil used for the secondary containment system is of such character that any spill onto the soil will be readily recoverable and will result in a minimal amount of soil contamination.</p> <p>Verify that stormwater which collects within the secondary containment system is removed by a manually operated pump or siphon, or a gravity drain pipe which has manually controlled dike valves.</p> <p>Verify that all pumps, siphons and valves are properly maintained and kept in good condition.</p> <p>Verify that if gravity drain pipes are used, all dike valves are locked in a closed position except when the operator is in the process of draining clean water from the diked area.</p> <p>Verify that the owner or operator of aboveground storage tanks inspects the tanks at least monthly.</p> <p>Verify that the inspection includes:</p> <ul style="list-style-type: none"> <li>- inspecting exterior surfaces of tanks, pipes, valves and other equipment for leaks, maintenance deficiencies and any other equipment deficiency</li> <li>- identifying cracks, areas of wear, corrosion and thinning, poor maintenance and operating practices, excessive settlement of structures, separation or swelling of tank insulation, malfunctioning equipment and structural and foundation weaknesses</li> <li>- inspecting and monitoring all leak detection systems, cathodic protection monitoring equipment, or other monitoring or warning systems which may be in place at the facility.</li> </ul> <p>Verify that, in addition to monthly inspections, the owner or operator performs a detailed inspection of any aboveground tank with a capacity of ten thousand (20,000) [sic] gal or more.</p> <p>(NOTE: Detailed 10 yr inspections are not required for the following unless otherwise specified:</p> <ul style="list-style-type: none"> <li>- tanks which are entirely above ground, such as tanks on racks, cradles or stilts, only require a tightness test every 10 yr</li> <li>- tanks storing No. 5 or No. 6 fuel oil or tanks storing asphalt products</li> </ul>

**COMPLIANCE CATEGORY:  
STORAGE TANK MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>ST.5.5.RI.</b> Aboveground storage tanks with a capacity of 500 gal or greater must meet closure requirements</p>	<ul style="list-style-type: none"> <li>- tanks installed in conformance with standards for new construction.)</li> </ul> <p>Verify that detailed 10 yr must consist of an appropriate tightness test of the tank and connecting piping or an inspection which consists of the following:</p> <ul style="list-style-type: none"> <li>- cleaning the tank in accordance with generally accepted practices</li> <li>- removal, transportation and disposal of sludge in a manner consistent with all applicable state and federal laws and regulations</li> <li>- inspecting the tank shell for soundness and testing all welds and seams on the tank bottom for porosity and tightness</li> <li>- visual inspection of the internal surface of the tank for corrosion or failure</li> <li>- inspection of internal coatings for any sign of failure of the coating system such as cracks, bubbles, blisters, peeling, curling or separation</li> <li>- tightness test of any connecting underground pipes.</li> </ul> <p>Verify that records for each monthly inspection and 10 yr inspection are maintained and made available to the Department upon request for a period of at least 10 yr.</p> <p>Verify that an annual report, comprising the monthly inspection reports and any ten year inspection reports completed in the previous 12 months, are submitted to the Department of Environmental Management, Division of Groundwater and Freshwater Wetlands by 31 December of each year.</p> <p>Verify that reports include:</p> <ul style="list-style-type: none"> <li>- identification number for tanks inspected</li> <li>- date of inspection</li> <li>- results of inspection, including specific inspection procedures any deficiencies and corrective actions</li> <li>- certification by the inspector that the inspection has been performed in accordance with these regulations</li> <li>- signature and address of the inspector.</li> </ul> <p>Verify that if an inspection reveals a tank equipment failure, monitoring equipment failure, or excessive thinning of a tank shell which would indicate structural weakness when the tank contains oil, remedial measures are taken promptly to eliminate any leak potential.</p> <p>Verify that if any aboveground storage tanks are not inspected as required, they are taken out-of-service pursuant to these regulations.</p> <p>Verify that storage tanks or facilities which are temporarily closed for 30 d or more are closed as follows:</p> <ul style="list-style-type: none"> <li>- all product is removed from the tank and the piping systems (any waste</li> </ul>

**COMPLIANCE CATEGORY:  
STORAGE TANK MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p>(CRIR 12 100 005.10.e) [Added March 1998].</p>	<p>product removed from the tank is disposed of in accordance with all applicable state and federal requirements)</p> <ul style="list-style-type: none"> <li>- all manways are locked or bolted securely and fill lines, gauge openings or pump lines are capped, plugged or blanked.</li> </ul> <p>Verify that any tank which is closed for a period of 180 d or more is considered permanently closed and complies with the following requirements:</p> <ul style="list-style-type: none"> <li>- liquid and sludge are removed from the tank and connecting lines (any waste products is disposed of in accordance with all applicable state and federal requirements</li> <li>- the tank is rendered free of oil vapors</li> <li>- all connecting lines are disconnected or blanked, and manways are securely fastened</li> <li>- tanks are stenciled with the date of permanent closure.</li> </ul> <p>(NOTE: Storage tanks or facilities which have not been closed are subject to all requirements for inspections (see above).)</p>
<p><b>ST.5.6.RI.</b> Aboveground storage tank facilities with a combined capacity of 50,000 gal or greater, or a capacity of 5000 gal or greater and located in a sensitive area, must meet groundwater monitoring requirements (CRIR 12 100 005.10.h) [Added March 1998].</p>	<p>Verify that all facilities with a combined storage capacity greater than or equal to 50,000 gallons, or any facility with a storage capacity greater than or equal to 5,000 gallons which is located in an environmentally sensitive area, has implemented a groundwater monitoring program approved by the DEM.</p> <p>(NOTE: For the purpose of these regulations, environmentally sensitive area is defined as any area with a groundwater classification of GAA.)</p>
<p><b>ST.5.7.RI.</b> New and substantially modified aboveground storage tanks with a capacity of 500 gal or greater must meet specific construction and installation standards (CRIR 12 100 005.10.g and i.1 through 4, 7 and 8) [Added March 1998].</p>	<p>Verify that tanks which are removed and do not meet the requirements for new and substantially modified tanks are not reused for the purpose of oil storage.</p> <p>Verify that new aboveground oil storage facilities are constructed of steel and meet or exceed one of the following design and manufacturing standards:</p> <ul style="list-style-type: none"> <li>- UL No. 142</li> <li>- UL No. 58</li> <li>- API Standards No. 650</li> <li>- API Standards No. 620</li> <li>- CAN4-S601-M84, or</li> <li>- CAN4-S630-M84.</li> </ul> <p>Verify that any aboveground oil storage tank which does not comply with the</p>

**COMPLIANCE CATEGORY:  
STORAGE TANK MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>ST.5.8.RI.</b> New and substantially modified aboveground storage tanks with a capacity of 500 gal or greater must have secondary containment (CRIR 12 100 005.10.i.5) [Added March 1998].</p>	<p>above requirements (such as a riveted or bolted steel tank, a tank constructed of wood, concrete, aluminum or fiberglass reinforced plastic), is not installed without prior approval of the Director</p> <p>Verify that bottoms of new tanks which rest on or in the ground are cathodically protected with sacrificial anodes or an impressed current system which is designed, fabricated and installed in accordance with recognized engineering practices.</p> <p>Verify that the cathodic protection system is:</p> <ul style="list-style-type: none"> <li>- designed to provide a minimum of 30 yr of protection</li> <li>- installed under the supervision of a qualified engineer or corrosion specialist (where this is necessary to assure that the system has been installed as designed)</li> <li>- provided with a monitor which enables the owner or operator to check on the adequacy of cathodic protection.</li> </ul> <p>Verify that the exterior surfaces of all new aboveground storage tanks is protected by a primer coat, a bond coat and two or more final coats of paint or an equivalent surface coating system designed to prevent corrosion and deterioration.</p> <p>Verify that any new stationary tank which is designed to rest on the ground is constructed with a double bottom or underlain by an impervious barrier such as a concrete pad or a cutoff barrier.</p> <p>Verify that if a barrier is used, it has a permeability rate of water equal to or less than <math>1 \times 10^{-6}</math> cm/sec and does not deteriorate in an underground environment or in the presence of oil.</p> <p>Verify that new aboveground tanks are supported on a well drained stable foundation which prevents movement, rolling or setting of the tank and is designed to minimize corrosion of the tank bottom.</p> <p>Verify that new above ground tanks, pipes and distribution equipment are not located along highway curves or otherwise exposed to traffic hazards.</p> <p>Verify that the secondary containment system for new and substantially modified aboveground storage tanks are constructed with a permeability rate of water equal to or less than <math>1 \times 10^{-6}</math> cm/sec.</p> <p>(NOTE: New and substantially modified aboveground storage tanks must also meet the secondary containment requirements that apply to all tanks with a capacity of 500 gal or greater; see above.)</p>

<b>COMPLIANCE CATEGORY:</b> <b>STORAGE TANK MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<p><b>ST.5.9.RI.</b> New and substantially modified aboveground storage tanks with a capacity of 500 gal or greater must have monitoring systems (CRIR 12 100 005.10.i.6) [Added March 1998].</p>	<p>Verify that new aboveground tanks have equipment for monitoring between the tank bottom and the impermeable barrier.</p> <p>(NOTE: This includes, but is not limited to, perforated gravity collection pipes or channels in a concrete foundation pad which may be monitored for the presence of oil visually, electronically or by other satisfactory methods. Observation wells or other systems which monitor the soil or groundwater beneath the impermeable barrier do not satisfy the leak detection requirements of this checklist item.)</p>
<p><b>ST.5.10.RI.</b> New and substantially modified aboveground storage tanks with a capacity of 500 gal or greater must undergo initial tightness testing (CRIR 12 100 005.10.i.9) [Added March 1998].</p>	<p>Verify that before being placed in service, all new tanks are tested for tightness and inspected in accordance with requirements outlined in API Standard 650.</p> <p>(NOTE: If a pneumatic test is used, all fittings, welds and joints must be coated with a soap solution and inspected for air leaks.)</p>
<p><b>ST.5.11.RI.</b> Repairs to aboveground storage tanks must meet specific standards (CRIR 12 100 005.11) [Added March 1998].</p>	<p>Verify that all repairs are permanent in nature and equal to or better than the standards of original construction.</p> <p>Verify that all welds associated with the repair of a tank are inspected and tested for tightness before the tank is returned to service.</p> <p>(NOTE: Linings, coatings, grouts and other sealing materials which are chemically compatible with the oil product being stored may be used in conjunction with a permanent steel tank repair as outlined above, but by themselves are not acceptable permanent repairs.)</p> <p>Verify that, prior to repair, a tank is cleaned in accordance with generally accepted practices, and that sludge which has accumulated on the bottom of the tank is removed, transported and disposed of in a manner consistent with all applicable state and Federal requirements for solid waste disposal.</p> <p>Verify that if a non-corrodible epoxy-based resin, isophthalic polyester-based resin or equivalent coating is used as a coating to protect a tank from future corrosion:</p> <ul style="list-style-type: none"> <li>- the coating is applied as soon as possible, but not later than 8 hr after sandblasting and cleaning of the internal surface</li> <li>- visible rust, moisture or foreign matter is not present.</li> <li>- the coating is of sufficient thickness, density and strength to form a hard impermeable shell which will not crack, soften or separate from the interior</li> </ul>

<b>COMPLIANCE CATEGORY:</b> <b>STORAGE TANK MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
	<p>surface of the tank</p> <ul style="list-style-type: none"> <li>- the coating maintains a permanent bond to the tank</li> <li>- the coating's coefficient of thermal expansion is compatible with steel so that stress due to temperature changes will not be detrimental to the soundness of the coating</li> <li>- the coating is chemically compatible with oil products and product additives</li> <li>- the coating material is applied and cured in strict accord with manufacturer's specifications.</li> <li>- coatings used to protect the bottom of the tank extend up the side of the tank a minimum of 18 in.</li> <li>- the coating is checked for blisters, air pockets and electrically tested for pinholes</li> <li>- the coating thickness is checked assure compliance with manufacturer's specifications, and any defects are repaired.</li> </ul> <p>Verify that an interior coating is installed under the direction of the lining manufacturer or a certified representative, and that the manufacturer or representative guarantees to the owner in writing that the coating will not leak the product in storage for the period specified in the coating product warranty.</p> <p>Verify that a copy of the guarantee is kept by the owner for the life of the tank.</p>



<b>COMPLIANCE CATEGORY:</b> <b>STORAGE TANK MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> March 1998
<b>ST.10.</b> <b>EMISSIONS/</b> <b>DISCHARGES FROM</b> <b>BULK GASOLINE</b> <b>TERMINALS</b>	
<b>ST.10.1.RI.</b> Bulk gasoline terminals must meet specific vapor balance equipment requirements (CRIR 12 031 011.3.2.1).	<p>Verify that there is no loading or unloading gasoline into tank trucks, railroad tank cars, or trailers from any bulk gasoline terminal unless they are equipped with a vapor balance system, and:</p> <ul style="list-style-type: none"> <li>- the bulk gasoline terminal is equipped with a vapor control system properly installed, maintained in good working order and in operation, that prevents emissions to the atmosphere from exceeding 0.30 g/gal (80 mg/L) of gasoline loaded over any 6 h period</li> <li>- the vapor collection and processing equipment is designed and operated to prevent gauge pressure in the tank truck from exceeding 18 in. of water and prevent vacuum from exceeding 6 in. of water</li> <li>- a connecting pipe or hose from the loading rack to the delivery vessel is equipped with fittings which are vapor tight and will automatically and immediately close upon disconnection so as to prevent release of volatile organic materials</li> <li>- a vapor space connection on the tank truck, railroad tank car, or trailer is equipped with fittings which are vapor tight and will automatically and immediately close upon disconnection so as to prevent release of volatile organic materials to the best extent possible</li> <li>- the bulk gasoline terminal is equipped with a vapor control system, properly installed, in good working order, in operation and with:               <ul style="list-style-type: none"> <li>- an adsorber or condensation system which processes and recovers at least 90 percent by weight of all vapors and gases from the equipment being controlled</li> <li>- a vapor collection system which directs all vapor to fuel gas system and reduces emissions by at least 90 percent</li> <li>- a control system determined to be equally effective and approved by the Director.</li> </ul> </li> </ul>
<b>ST.10.2.RI.</b> Bulk gasoline terminals must comply with operating requirements (CRIR 12 031 011.3.2.2 and 3.2.3) [Citation Revised March 1998].	<p>Verify that bulk gasoline terminals do not:</p> <ul style="list-style-type: none"> <li>- allow gasoline to be discarded in sewers or stored in open containers or handled in any manner that would result in evaporation,</li> <li>- allow the pressure in the vapor collection system to exceed the tank truck or trailer pressure relief settings.</li> </ul>

<b>COMPLIANCE CATEGORY:</b> <b>STORAGE TANK MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<p><b>ST.10.3.RI.</b> Bulk gasoline terminals must comply with specific recordkeeping requirements (CRIR 12 031 011.3.3).</p>	<p>Verify that all pumps and compressors handling gasoline have mechanical seals or other equipment for the purposes of air pollution control as approved by the Director and EPA.</p> <p>Verify that the seals or other equipment, when tested by a combustible gas detector at 2.5 cm from any potential leak points give no reading of greater than 100 percent of the lower explosive limit, measured as propane.</p> <p>Verify that records are maintained at the facility by the owner or operator of a bulk gasoline terminal and include:</p> <ul style="list-style-type: none"> <li>- records of daily throughput quantities of gasoline</li> <li>- records for both scheduled and unscheduled maintenance of the vapor control system.</li> </ul> <p>Verify that records are maintained for a period of 3 yr and are accessible for review by the Director.</p>
<p><b>ST.10.4.RI.</b> Bulk gasoline plants must meet specific vapor balance equipment requirements (CRIR 12 031 011.4.2).</p>	<p>Verify that there is no loading or unloading of account trucks, tank trucks, railroad tank cars or trailers at a bulk gasoline plant unless they are equipped with a vapor balance system approved by the Director, and either:</p> <ul style="list-style-type: none"> <li>- equipment is available at the bulk gasoline plant to provide for the submerged filling of each tank truck, railroad tank car or trailer, or</li> <li>- each tank truck, railroad tank car or trailer is equipped for bottom filling.</li> </ul> <p>Verify that vapor balance systems prevent the release of volatile organic material to the atmosphere to the best extent possible and consist of the following major components:</p> <ul style="list-style-type: none"> <li>- a vapor space connection on the stationary storage tank equipped with fittings which are vapor tight and will automatically and immediately close upon disconnection to prevent release of volatile organic material, and</li> <li>- a connecting pipe or hose equipped with fittings which are vapor tight and will automatically and immediately close upon disconnection so as to prevent release of volatile organic material, and</li> <li>- a vapor space connection on the tank truck, railroad tank car or trailer equipped with fittings which are vapor tight and will automatically and immediately close upon disconnection so as to prevent release of volatile organic material.</li> </ul> <p>Verify that no owner or operator of a bulk gasoline plant permits gasoline to be spilled, discarded in sewers, stored in open containers or handled in any other</p>

**COMPLIANCE CATEGORY:  
STORAGE TANK MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>ST.10.5.RI.</b> Bulk gasoline plants must comply with specific recordkeeping requirements (CRIR 12 031 011.4.3).</p> <p><b>ST.10.6.RI.</b> Bulk gasoline plants must register with the Director (CRIR 12 031 011.4.4.1).</p> <p><b>ST.10.7.RI.</b> Bulk gasoline terminals and plants must meet criteria for Reid Vapor Pressure (CRIR 12 031 011.7) [Revised March 1998].</p>	<p>manner that would result in evaporation.</p> <p>Verify that records are maintained at a bulk gasoline plant that include:</p> <ul style="list-style-type: none"> <li>- records of daily throughput quantities of gasoline</li> <li>- records for both scheduled and unscheduled maintenance of vapor balance equipment.</li> </ul> <p>Verify that records cited above are maintained for a period of 3 yr and are accessible for review by the Director.</p> <p>Verify that all bulk gasoline plants are registered with the Director.</p> <p>Verify that during the period 1 May through 15 September of each year, no gasoline having a RVP greater than 9.0 pounds per square inch:</p> <ul style="list-style-type: none"> <li>- is stored, sold, or supplied as fuel at or from bulk gasoline terminals and bulk gasoline plants</li> <li>- is stored, sold, supplied, or delivered to a gasoline dispensing facility.</li> </ul> <p>(NOTE: The RVP for gasoline-ethanol blends containing at least 9 percent ethanol may be up to 10.0 lb/psi during this period.)</p>



**COMPLIANCE CATEGORY:  
STORAGE TANK MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>ST.15. EMISSIONS/ DISCHARGES FROM POL STORAGE VESSELS</b></p> <p><b>ST.15.1.RI.</b> Storage tanks over 40,000 gal capacity must meet specific design and construction requirements (CRIR 12 031 011.2.1) [Citation Revised March 1998].</p>	<p>(NOTE: This section applies to stationary storage tanks or vessels with a capacity in excess of 40,000 gal.)</p> <p>Verify that no petroleum liquids are stored in any stationary vessel of more than 40,000 gal capacity unless it is a pressure tank capable of maintaining working pressures at all times to prevent vapor or gas loss to the outdoor atmosphere, unless the tank either:</p> <ul style="list-style-type: none"> <li>- utilizes an internal floating roof equipped with a closure seal, or seals, to close the space between the roof edge and tank wall so that: <ul style="list-style-type: none"> <li>- the cover floats uniformly on the liquid</li> <li>- there is no accumulated liquid on the cover</li> <li>- the seal is intact and uniformly in place around the circumference of the cover between the cover and tank wall, or</li> </ul> </li> <li>- utilizes an alternative control device that is at least 95 percent effective at reducing or recovering VOC emissions, approved by the Director.</li> </ul> <p>Verify that no petroleum liquids are stored in any stationary vessel of more than 40,000 gal capacity unless it is a pressure tank capable of maintaining working pressures at all times to prevent vapor or gas loss to the outdoor atmosphere, unless:</p> <ul style="list-style-type: none"> <li>- the tank is maintained so that there are no visible holes, tears, or other openings in the seal or any seal fabric or materials</li> <li>- where applicable, all openings, except stub drains, are equipped with covers, lids, or seals such that: <ul style="list-style-type: none"> <li>- the cover, lid, or seal is in the closed position at all times except when in actual use</li> <li>- automatic bleeder vents are closed at all times except when the roof is being floated off or being landed on the roof leg supports</li> <li>- rim vents, if provided, are set to open when the roof is being floated off the roof leg supports or at the manufacturer's recommended setting</li> </ul> </li> <li>- routine inspections are conducted through roof hatches on a monthly basis</li> <li>- a complete inspection of cover and seal is conducted whenever the tank is emptied for non operational reasons or once per year whichever is less</li> <li>- the tank utilizes a vapor recovery system consisting of a device capable of collecting the vapor from volatile organic liquids and gases so as to prevent their emissions to the outdoor atmosphere</li> <li>- all tank gauging and sampling devices are gas tight except when gauging or sampling is taking place.</li> </ul>

**COMPLIANCE CATEGORY:  
STORAGE TANK MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>ST.15.2.RI.</b> Storage tanks or vessels over 40,000 gal must meet recordkeeping requirements (CRIR 12 031 011.2.2).</p>	<p>Verify that records are maintained at the facility that include:</p> <ul style="list-style-type: none"> <li>- reports of the results of inspections</li> <li>- records of daily throughput quantities, types of volatile petroleum liquids, average monthly storage temperature, and true vapor pressure of the stored liquid</li> <li>- records for both scheduled and unscheduled maintenance.</li> </ul> <p>Verify that records are maintained for a period of 3 yr and are accessible for review by the Director.</p>
<p><b>ST.15.3.RI.</b> Storage tanks or vessels over 40,000 gal with external floating roofs must meet specific design and operating requirements (CRIR 12 031 011.6.1) [Added March 1998].</p>	<p>Verify that the installation/CW facility does not store gasoline in a storage tank having a capacity of 40,000 gallons or greater that is equipped with an external floating roof unless the vessel has been fitted with:</p> <ul style="list-style-type: none"> <li>- a continuous secondary seal extending from the floating roof to the tank wall (rim-mounted secondary seal), or</li> <li>- a closure or other device which controls volatile organic compound emissions by attaining or exceeding the requirements for a secondary seal required under this regulation, and approved by the Director and EPA.</li> </ul> <p>Verify that for all seal closure devices:</p> <ul style="list-style-type: none"> <li>- there are no visible holes, tears or other openings in the seals or seal fabric</li> <li>- the seals are intact and uniformly in place around the circumference of the floating roof between the floating roof and the tank wall</li> <li>- for tanks having vapor mounted primary seals, the accumulated area of gaps exceeding 0.32 cm (1/8 in.) in width between the secondary seal and the tank wall does not exceed 21.2 cm<sup>2</sup> per meter of tank diameter (1.0 in.<sup>2</sup> per ft. of tank diameter.</li> </ul> <p>Verify that all openings in the external floating roof, except for automatic bleeder vents, rim space vents and leg sleeve:</p> <ul style="list-style-type: none"> <li>- are equipped with covers, seals or lids in the closed position except when the openings are in actual use, and</li> <li>- provide projections below the liquid surface at all times.</li> </ul> <p>Verify that automatic bleeder vents are closed at all times except when the roof is being floated off or being landed on the roof leg supports.</p> <p>Verify that rim vents are set to open when the roof is being floated off the leg supports or at the manufacturer's recommended setting.</p> <p>Verify that emergency roof drains are provided with slotted membrane fabric covers or equivalent covers which cover at least 90 percent of the area of the</p>

<b>COMPLIANCE CATEGORY:</b> <b>STORAGE TANK MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> March 1998
<p><b>ST.15.4.RI.</b> Storage tanks or vessels over 40,000 gal with external floating roofs must meet inspection and reporting requirements (CRIR 12 031 011.6.2) [Added March 1998].</p>	<p>opening.</p> <p>Verify that the owner or operator of a petroleum liquid storage vessel with an external floating roof:</p> <ul style="list-style-type: none"> <li>- performs routine inspections semiannually in order to ensure compliance this regulation (see ST.15.3.RI.), and the inspection of the secondary seal gap,</li> <li>- measures the secondary seal gap annually when the floating roof is equipped with a vapor-mounted primary seal or liquid-mounted primary seal (except that measurements in riveted tanks will not be made when the roof is floating at a level that places the secondary seal in contact with a horizontal rivet seam)</li> <li>- maintains records at the facility of the results of the inspections for a period of 3 yr after an inspection</li> <li>- provides copies of all records under this section to the Director, upon verbal or written request, at any reasonable time.</li> <li>- maintains records at the facility which report monthly throughput quantities, types of petroleum liquids stored, average monthly storage temperature, and true vapor pressures of the stored liquid.</li> </ul>
<p><b>Gasoline Dispensing Facilities: Stage I Vapor Control</b></p>	<p>(NOTE: These requirements apply to all gasoline dispensing facilities with the following exceptions:</p> <ul style="list-style-type: none"> <li>- stationary gasoline storage vessels of less than 550 gal capacity used exclusively for the fueling of implements of husbandry, provided the containers are equipped with submerged fill pipes</li> <li>- stationary storage vessels located at a gasoline dispensing facility with a capacity of less than 2000 gal which is in place before 1 July 1979</li> <li>- any stationary storage vessels located at a gasoline dispensing facility with a capacity of 250 gal or less which is installed after 28 March 1993</li> <li>- any gasoline dispensing facility that is solely serviced by account trucks owned or under the control of bulk gasoline plants that are exempt</li> <li>- any gasoline dispensing facility with an annual throughput of 120,000 gal or less, a rolling 30 day throughput of less than 10,000 gal, as certified by the Division of Air and Hazardous Materials.)</li> </ul>
<p><b>ST.15.5.RI.</b> Gasoline dispensing facilities must meet Stage I vapor control requirements (CRIR 12 031 011.5.2.1 and 5.2.2) [Added March 1998].</p>	<p>Verify that there are no transfers of gasoline from any delivery vessel into any stationary storage vessel unless the stationary storage vessel is equipped with a submerged fill pipe and the vapors displaced from the storage vessel during filling are processed by a vapor control system.</p> <p>Verify that the vapor control system includes one or more of the following:</p>

<b>COMPLIANCE CATEGORY:</b> <b>STORAGE TANK MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<p><b>ST.15.6.RI.</b> Gasoline dispensing facilities must meet specific operational requirements (CRIR 12 031 011.5.2.3 through 5.2.5) [Added March 1998].</p>	<ul style="list-style-type: none"> <li>- a vapor tight line from the storage vessel to the delivery vessel and a system that will ensure that vapors will be transferred from the storage vessel to the delivery vessel, or</li> <li>- a refrigeration-condensation system or equivalent designed to recover or process vapors that prevents emissions of volatile organic compounds to the atmosphere from exceeding 0.30 grams per gal (80.0 grams/1000 liters) of gasoline loaded, or</li> <li>- a system demonstrated to have equivalent control efficiency equivalent and approved by the Director and EPA.</li> </ul> <p>Verify that the delivery vessel is designed and maintained to be vapor tight at all times, and is re-filled only at:</p> <ul style="list-style-type: none"> <li>- bulk gasoline terminals complying with Section 11.3 (see section ST.10.RI.), or</li> <li>- bulk gasoline plants complying with Section 11.4 (see section ST.10.RI.).</li> </ul> <p>Verify that each owner of a gasoline storage vessel and gasoline delivery vessel:</p> <ul style="list-style-type: none"> <li>- purchases and installs all necessary control systems and make all necessary process modifications to comply with these requirements</li> <li>- provides instructions to the operator describing necessary maintenance operations, and procedures for prompt notification of the owner in case of any malfunctions of the control system</li> <li>- repairs, replaces or modifies any worn out or malfunctioning component or element of design.</li> </ul> <p>Verify that the operator of a gasoline dispensing facility:</p> <ul style="list-style-type: none"> <li>- maintains and operates the control system in accordance with the specifications and the operating and maintenance procedures specified by the owner</li> <li>- promptly notifies the owner of the control system of any schedule maintenance or malfunction requiring replacement or repair of major components in the system.</li> </ul> <p>Verify that the operator maintains gauges, meters, or other specified equipment in proper working order.</p>
<p><b>ST.15.7.RI.</b> Gasoline dispensing facilities must meet specific recordkeeping requirements (CRIR 12 031 011.5.3) [Added March</p>	<p>Verify that the operator of a gasoline dispensing facility with a refrigeration/condensation system maintains records at the facility that include:</p> <ul style="list-style-type: none"> <li>- the scheduled date for maintenance or the date a malfunction was detected</li> <li>- the date the need for maintenance or malfunction of major system</li> </ul>

**COMPLIANCE CATEGORY:  
STORAGE TANK MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p>1998].</p> <p><b>Gasoline Dispensing Facilities: Stage II Vapor Control</b></p> <p><b>ST.15.8.RI.</b> Gasoline dispensing facilities must meet Stage II vapor control requirements (CRIR 12 031 011.10.2) [Added March 1998].</p>	<p>components was reported to the owner</p> <ul style="list-style-type: none"> <li>- the date the maintenance was performed or the malfunction corrected by either the operator or the owner</li> <li>- records of daily throughput quantities.</li> </ul> <p>Verify that these records are maintained for a period of 3 yr and are accessible for review by the Director.</p> <p>(NOTE: The requirements of this subsection apply to:</p> <ul style="list-style-type: none"> <li>- all gasoline dispensing facilities constructed or substantially modified after 15 November 1992</li> <li>- all other gasoline dispensing facilities which have or have had a monthly throughput of greater than 10,000 gal in any one month after November 1991.)</li> </ul> <p>(NOTE: The requirements in this subsection do not apply to gasoline dispensing facilities which dispense gasoline solely to marine vessels.)</p> <p>Verify that each gasoline dispensing pump has a Stage II vapor collection and control system that has been certified by the California Air Resources Board (CARB) as having a minimum control efficiency of 95 percent by weight, and makes any modifications to the facility necessary to properly operate the system.</p> <p>Verify that all hoses in the system are coaxial.</p> <p>(NOTE: The system may include aftermarket parts, provided that those parts have been certified by CARB.)</p> <p>Verify that, prior to the initial operation of the Stage II vapor collection and control system, at least one facility representative has attended a Stage II training session.</p> <p>Verify that at least one person who has attended a Stage II training session is employed at the facility.</p> <p>Verify that operating instructions for dispensing gasoline using the vapor collection and control system are conspicuously posted on the front of each gasoline dispensing pump that include:</p> <ul style="list-style-type: none"> <li>- a warning not to attempt continued refueling after initial automatic shutoff</li> <li>- the telephone number of the Department</li> <li>- a request that inoperative control devices be reported.</li> </ul> <p>Verify that the Stage II vapor collection and control system is maintained in</p>

<b>COMPLIANCE CATEGORY:</b> <b>STORAGE TANK MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<b>ST.15.9.RI.</b> Gasoline dispensing facilities must meet testing, recordkeeping, and reporting requirements for Stage II vapor control	<p>proper operating condition and free of defects that would impair the effectiveness of the system.</p> <p>Verify that all aboveground parts of the Stage II vapor collection and control system are visually inspected once a week, and that the inspection includes checking for:</p> <ul style="list-style-type: none"> <li>- missing components</li> <li>- slits and tears in nozzle boots</li> <li>- face cone defects</li> <li>- flattened, kinked or torn hoses</li> <li>- faceplate defects which hinder contact with the fill inlet area.</li> </ul> <p>Verify that a dispenser is removed from service if:</p> <ul style="list-style-type: none"> <li>- any part of the Stage II vapor collection and control system fails a compliance test conducted by or ordered by the Department or is found to be defective during a Department inspection</li> <li>- any part of the Stage II vapor collection and control system is not operating properly</li> <li>- any part of the Stage II vapor collection and control system is found to be defective during a visual inspection.</li> </ul> <p>(NOTE: If the defect is in a single hose or nozzle on a multiproduct dispenser, only the nozzle associated with the defect must be removed from service.)</p> <p>Verify that any dispenser removed from service on the basis of test results is kept out of service until it has been demonstrated by retesting that the dispenser is in compliance.</p> <p>(NOTE: Any dispenser removed from service in accordance with any other provision of this subsection must be kept out of service until all defective or missing parts of the Stage II vapor collection and control system associated with the dispenser have been repaired or replaced.)</p> <p>Verify that there is no dispensing of gasoline from a stationary storage vessel into any motor vehicle fuel tank unless that gasoline dispenser is equipped with a properly operating Stage II vapor collection and control system certified by the California Air Resources Board and that system has been determined to be installed correctly.</p>
	<p>Verify that the owner or operator of a gasoline dispensing facility has reported the following information to the Department in writing:</p> <ul style="list-style-type: none"> <li>- name and address of the facility</li> <li>- name and address of owner or operator or other responsible individual</li> </ul>

<b>COMPLIANCE CATEGORY:</b> <b>STORAGE TANK MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<p>equipment (CRIR 12 031 011.10.3.1 through 7) [Added March 1998].</p>	<ul style="list-style-type: none"> <li>- number of nozzles used to dispense gasoline at the facility</li> <li>- monthly throughput for each of the previous 12 months.</li> </ul> <p>Verify that at least 30 days prior to the installation of a Stage II system, the person who owns, operates, leases, or controls the gasoline dispensing facility notifies the Department in writing of the expected date of initiation of installation of the underground piping and of the type and manufacturer of the Stage II equipment.</p> <p>Verify that the following tests are conducted on any Stage II vapor collection and control system prior to initial operation of the system:</p> <ul style="list-style-type: none"> <li>- a leak test</li> <li>- a liquid blockage test</li> <li>- a vapor space tie test.</li> </ul> <p>Verify that the installation/CW facility notifies the Division of the date that these tests will be conducted at least 7 days in advance of testing.</p> <p>Verify that within 15 days of completion of the installation and testing of a Stage II vapor collection and control system, the installation/CW facility certifies to the Department in writing that installation and testing has been completed.</p> <p>Verify that the function of all Stage II vapor collection and control systems is retested at least once every 5 yr and within 30 days of any major system modification.</p> <p>(NOTE: A major system modification is considered to be the occurrence of any one of the following:</p> <ul style="list-style-type: none"> <li>- a modification which would cause the facility to be a substantially modified gasoline dispensing facility</li> <li>- the repair or replacement of any part of an underground piping system attached to a stationary storage tank equipped with a Stage II system, excluding repairs which occur without excavation</li> <li>- the change from one certified Stage II system configuration to another.)</li> </ul> <p>Verify that the tests conducted are the same as for initial operation of new systems, and that notification and reporting requirements for new systems are also met (see above).</p>
<p><b>ST.15.10.RI.</b> Gasoline dispensing facilities must meet recordkeeping requirements for Stage II vapor control equipment (CRIR 12 031 011.10.3.8) [Added March 1998].</p>	<p>Verify that the following records are maintained for a period of 5 years (unless otherwise noted) and made available for inspection by representatives of the Department or the EPA on request:</p> <ul style="list-style-type: none"> <li>- dates and results of weekly visual inspections (2 yr)</li> <li>- date that any gasoline dispenser is removed from operation as a result of any inspection, and date that dispenser is returned to service (2 yr)</li> </ul>

<b>COMPLIANCE CATEGORY:</b> <b>STORAGE TANK MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
	<ul style="list-style-type: none"> <li>- identification of parts of the Stage II vapor collection and control system that are repaired or replaced, and dates of such replacements (2 yr)</li> <li>- identification of any tests performed and the dates and results of such tests</li> <li>- proof of attendance and completion of training for each employee who has received Stage II training (such documentation must be maintained as long as the employee continues to be employed by the facility).</li> </ul> <p>Verify that records are maintained either at the facility or at a centralized location approved by the Division.</p> <p>Verify that any gasoline dispensing facility exempted from this section because of low amount of product throughput maintains records at the facility for 5 yr documenting monthly throughput of gasoline, including:</p> <ul style="list-style-type: none"> <li>- dates and quantities of gasoline delivered</li> <li>- monthly records of the quantity of gasoline dispensed.</li> </ul>
<b>Gasoline Tank Trucks</b>	<p>(NOTE: This subsection applies to all gasoline tank trucks equipped for gasoline vapor collection.)</p>
<b>ST.15.11.RI.</b> Gasoline tank trucks must meet vapor control requirements (CRIR 12 031 011.8.2) [Added March 1998].	<p>Verify that no gasoline tank truck is filled or emptied unless the gasoline tank truck:</p> <ul style="list-style-type: none"> <li>- is leak-tight tested annually</li> <li>- sustains a pressure change of no more than .11 psi (3 in. of water) in 5 minutes when pressurized to a gauge pressure of .65 psi (18 in. of water) or evacuated to a gauge pressure of .22 psi (6 in. of water) during testing</li> <li>- is repaired by the owner or operator and retested within 15 days if it does not meet the criteria of the preceding subparagraph</li> <li>- displays a sticker near the Department of Transportation Certification plate, which:             <ul style="list-style-type: none"> <li>- shows the date the gasoline tank truck last passed the leak-tight test</li> <li>- shows the identification number of the gasoline tank truck</li> <li>- expires not more than one year from the date of the leak tight test.</li> </ul> </li> </ul> <p>Verify that any vapor collection system is designed and operated and the gasoline loading equipment in a manner that prevents:</p> <ul style="list-style-type: none"> <li>- gauge pressure from exceeding .65 psi (18 in. of water) and a vacuum from exceeding .22 psi (6 in. of water) in the gasoline tank truck</li> <li>- a reading equal to or greater than 100 percent of the lower explosive limit, LEL, measured as propane, at 2.5 centimeters from any potential leak source during the loading or unloading operations at gasoline dispensing facilities, bulk plants and bulk terminals</li> </ul>

**COMPLIANCE CATEGORY:  
STORAGE TANK MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>ST.15.12.RI.</b> Gasoline tank trucks must meet testing and monitoring requirements for vapor control equipment (CRIR 12 031 011.8.4) [Added March 1998].</p>	<ul style="list-style-type: none"> <li>- visible leaks during the loading and unloading operations at gasoline dispensing facilities, bulk plants and bulk terminals.</li> </ul> <p>Verify that within 15 days, the installation/CW facility repairs and retests a vapor collection or control system where gauge pressure exceeds .65 psi (18 in. of water), or a vacuum exceeds .22 psi (6 in. of water) in the gasoline tank truck.</p> <p>Verify that all tests are made by, or under the direction of, a person qualified by training and/or experience in the field of air pollution testing or tank truck maintenance and testing and/or experience in the use of a combustible gas detector in the field of air pollution.</p> <p>Verify that the owner or operator of a gasoline tank truck notifies the Director in writing of the date and location of the certification test at least 10 days before the anticipated test date.</p> <p>Verify that the test procedure is consistent with the test procedure described in 40 CFR Part 60, Appendix A, Method 27.</p> <p>Verify that monitoring to confirm the continuing existence of leak tight conditions is consistent with the procedures described in Appendix B of the OAQPS Guideline Series document, "Control of Organic Compound Leaks from Gasoline Tank Trucks and Vapor Collection Systems," EPA 450/2-78-051 or an alternative method approved by the Director and EPA.</p>
<p><b>ST.15.13.RI.</b> Gasoline tank trucks must meet testing and recordkeeping and reporting requirements for vapor control equipment (CRIR 12 031 011.8.4) [Added March 1998].</p>	<p>Verify that the owner or operator of a gasoline tank truck maintains records of all certification testing and repairs.</p> <p>Verify that the records identify the gasoline tank truck, vapor collection system, or vapor control system; the date of repair; and, if applicable, the type of repair and the date of retest.</p> <p>Verify that the records are maintained in a legible, readily available condition for at least 2 yr after the date of testing or repair was completed.</p> <p>Verify that the records for certification tests contain, at a minimum:</p> <ul style="list-style-type: none"> <li>- the gasoline tank truck identification number</li> <li>- the initial test pressure and the time of reading</li> <li>- the final test pressure and the time of reading</li> <li>- the initial test vacuum and the time of reading</li> <li>- the final test vacuum and the time of reading</li> <li>- at the top of each report page the company name, and the date and location of the tests on that page</li> </ul>

<b>COMPLIANCE CATEGORY:</b> <b>STORAGE TANK MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
	<p>- the name, address and title of person conducting the test.</p> <p>Verify that the owner or operator of a gasoline tank truck certifies to the Director annually that the gasoline tank truck has been tested.</p> <p>Verify that copies of all records and reports are immediately made available to the Director and/or EPA, upon verbal or written request, at any reasonable time.</p>

<b>COMPLIANCE CATEGORY:</b> <b>STORAGE TANK MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<b>ST.30.</b> <b>UST STATE-SPECIFIC</b>	<p>(NOTE: Rhode Island's UST regulations apply to all proposed, new and existing UST facilities, at which petroleum products and/or hazardous materials are or have been stored underground in a tank or tank systems, whether the facilities serve institutional, industrial, commercial, educational, agricultural, governmental, residential or other purposes, and whether such facilities or USTs have been abandoned; and to persons who owned or operated the facilities since May 1985. Except for the leak and spill response requirements (see section ST.80.RI.), these regulations do not apply to:</p> <ul style="list-style-type: none"> <li>- hydraulic lift tanks</li> <li>- storage tanks located entirely within structures, such as a basement or cellar provided that: <ul style="list-style-type: none"> <li>- the structure allows for physical access to the storage tank</li> <li>- the structure is not part of a secondary enclosure</li> <li>- the tank is situated upon or above the surface of a concrete floor</li> </ul> </li> <li>- septic tanks</li> <li>- pipeline facilities regulated under the Natural Gas Pipeline Safety Act of 1968 or the Hazardous Liquid Pipeline Safety Act of 1979</li> <li>- flow through process tanks</li> <li>- underground storage tanks storing propane or liquified natural gas</li> <li>- underground storage tanks used for the temporary storage of raw materials or products by industry (so called "intermittent" or "fill and draw" tanks)</li> <li>- emergency Spill Protection and Overflow tanks</li> <li>- USTs connected to floor drains or other piping outlets which serve residential structures of one, two or three dwelling units.)</li> </ul> <p>(NOTE: Except for prohibitions on new tanks (see ST.35.1.RI.) and abandonment of existing tanks (see ST.95.1.RI.), and leak and spill response requirements (see section ST.80.RI.), these regulations do not apply to:</p> <ul style="list-style-type: none"> <li>- residential tanks less than or equal to 1100 gal in capacity used for storing No. 2 heating oil and serving a one, two or three family dwelling</li> <li>- farm tanks less than or equal to 1100 gal in capacity and storing No. 2 heating oil for non-commercial purposes.)</li> </ul>
<b>ST.30.1.RI.</b> USTs must be registered with the Department (CRIR 12 190 017.8.01, 8.02, 8.09, 8.19, and 8.20) [Citation Revised March 1998].	<p>Verify that USTs are registered with the Department.</p> <p>Verify that all certificates of registration are renewed annually.</p> <p>Verify that, upon the denial or revocation of the certificate of registration, the owner/operator immediately implements closure procedures.</p> <p>Verify that a notice of the existence of regulated USTs is recorded in the land evidence records for the city/town where the UST is located.</p>
<b>ST.30.2.RI.</b> UST	<p>Verify that any modification to or replacement of facility components is made to</p>

<b>COMPLIANCE CATEGORY: STORAGE TANK MANAGEMENT Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p>modifications must be approved by the Director (CRIR 12 190 017.12.02 and 12.03).</p>	<p>conform with the requirements for new and replacement tanks (see section ST.35).</p> <p>Verify that used replacement USTs meet the specifications for new or replacement USTs, and are only installed after:</p> <ul style="list-style-type: none"> <li>- the owner/operator makes a written request for and receives written approval from the Director of the proposed modification</li> <li>- documentation is provided that the used tanks have been inspected and tested by the manufacturer</li> <li>- documentation is provided that the used tank has been certified by the manufacturer to be reusable for the product to be stored</li> <li>- documentation is provided that the used tank is given the same warranty by the manufacturer as given to a new tank.</li> </ul>
<p><b>ST.30.3.RI.</b> USTs must comply with general operational and maintenance requirements (CRIR 12 190 017.10.02.A and B) [Citation Revised March 1998].</p>	<p>Verify that USTs are maintained and operated by trained personnel in compliance with the applicable national codes of practice for the handling and storage of petroleum or hazardous materials.</p> <p>Verify that UST facilities subject to leak detection requirements post or provide written instructions on the operation of leak detection equipment, as well as spill response procedures, in a location available to the operators of the UST system.</p>
<p><b>ST.30.4.RI.</b> [Moved to ST.45 March 1998].</p>	
<p><b>ST.30.5.RI.</b> All fillpipes must be labeled with the product identity (CRIR 12 190 017.10.11).</p>	<p>Verify that a label is affixed to the fill pipe so that the product inside the tank is identified (or that the tank is otherwise permanently marked).</p> <p>(NOTE: The American Petroleum Institute Publication 1637, "Product Identification at Service Stations" may be used to satisfy this requirement.)</p>
<p><b>ST.30.6.RI.</b> Floor drain and other non-sanitary waste water USTs must comply with certain requirements (CRIR 12 190 017.5.04).</p>	<p>Verify that all UST systems which are used to contain discharges, both intermittent and continuous, of non-sanitary waste waters or other pollutants from floor drains or other piping outlets, comply with the requirements of:</p> <ul style="list-style-type: none"> <li>- Rule 8.00 (registration) (see ST.30.1.RI.)</li> <li>- Rule 15.02 (prohibition of abandonment of any UST) (see ST.95.1.RI.)</li> <li>- Section 14.00 (leak and spill response) (see section ST.80)</li> <li>- Section 15.00 (closures) (see section ST.95)</li> </ul>

<b>COMPLIANCE CATEGORY:</b> <b>STORAGE TANK MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<p><b>ST.30.7.RI.</b> UST systems used to contain the discharge of non-sanitary wastewaters and other pollutants (holding tanks) must meet specific requirements (CRIR 12 190 017.19.01 through 19.04, 19.05.C, 19.06, and 19.07) [Revised March 1998].</p>	<p>- Section 19.00 (USTs serving floor drains) (see ST.30.7.RI.).</p> <p>Verify that the owner/operator of a holding tank has obtained a certificate of registration from the Director.</p> <p>Verify that for holding tanks in operation prior to 30 December 1993 requirements:</p> <ul style="list-style-type: none"> <li>- the holding tank and associated piping are made of or lined with materials that are compatible with the materials being stored</li> <li>- the holding tank and associated piping are solid, non leaching, and in good operational condition</li> <li>- the owner/operator obtains written approval from the Director prior to any upgrade of the tank and its associated piping.</li> </ul> <p>Verify that no substantial modification is made to any holding tank facility for which registration is required, without prior written notification to and approval by the Director.</p> <p>Verify that no new or replacement holding tanks are installed without prior written approval from the Director.</p> <p>Verify that all wastes are removed from the holding tank as necessary and in accordance with appropriate state, local, and Federal rules and regulations.</p> <p>Verify that records of all waste removals are maintained onsite for a minimum of 5 yr.</p> <p>Verify that all tanks and associated piping are maintained in accordance with manufacturers standards.</p> <p>Verify that, on a yearly basis, the space between the secondary containment and the holding tank is physically monitored to verify that neither the tank nor the secondary containment have been breached (and, if either has been breached, that the Department is notified).</p> <p>Verify that upon reasonable notice, the owner/operator makes available for inspection by DEM any records required under this checklist item.</p>
<p><b>ST.30.8.RI.</b> Underground storage tanks with a remote fill must meet specific equipment requirements (CRIR 12 100 005.9.b and c)</p>	<p>Verify that underground storage tanks with a remote fill and a capacity greater than or equal to 500 gal are equipped with a high level warning alarm system.</p> <p>Verify that underground storage tanks with a remote fill and a capacity greater</p>

COMPLIANCE CATEGORY: STORAGE TANK MANAGEMENT Rhode Island Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 1998
[Added March 1998].	than 500 gal are equipped with spill containment around fill areas.

**COMPLIANCE CATEGORY:  
STORAGE TANK MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>ST.35. NEW OR UPGRADED USTs</b></p> <p><b>ST.35.1.RI.</b> New or replacement USTs must meet location and notification requirements (CRIR 12 190 017.11.01 and 11.02).</p> <p><b>ST.35.2.RI.</b> [Deleted March 1998]</p> <p><b>ST.35.3.RI.</b> [Deleted March 1998]</p> <p><b>ST.35.4.RI.</b> New USTs must meet design and construction standards (CRIR 12 190 017.11.05) [Revised March 1998].</p> <p><b>ST.35.5.RI.</b> New and replacement USTs must have wear plates (CRIR 12 190 017.11.06).</p>	<p>Verify that no new USTs are installed where the groundwater is designated as a wellhead protection area for a community well (however, facilities registered prior to 30 December 1993 are permitted to upgrade in accordance with the provisions of these regulations).</p> <p>Verify that no new bare steel or metal USTs are installed for storage of petroleum products or hazardous materials is prohibited.</p> <p>Verify that there is no construction of a new facility or replacement tank system, and no substantial modification (including product piping replacement) of any UST facility that requires a certificate of registration, without prior written notification to and approval by the Director.</p> <p>Verify that all new USTs installed in Rhode Island provide for secondary containment of the tank and associated piping.</p> <p>Verify that all new and replacement USTs have steel wear plates centered under all openings with minimum dimensions of 8 in. x 8 in. area and at least 1/4 in. Thick</p> <p>(NOTE: Tank systems used to store heating oil consumed onsite are exempt from this requirement).</p>

**COMPLIANCE CATEGORY:  
STORAGE TANK MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>ST.35.6.RI.</b> New and replacement USTs must have a submerged fill tube (CRIR 12 190 017.11.07).</p>	<p>Verify that all new and replacement USTs have a submerged fill tube.</p> <p>(NOTE: Tank systems used to store heating oil consumed onsite are exempt from this requirement).</p>
<p><b>ST.35.7.RI.</b> New and replacement tanks must be pressure tested (CRIR 12 190 017.11.08).</p>	<p>Verify that, prior to installation, all new and replacement USTs are factory tested at a minimum of 5 psi gauge and are guaranteed tight by the manufacturer.</p> <p>Verify that this guarantee is filed with the DEM at the time of installation application.</p>
<p><b>ST.35.8.RI.</b> New or replacement USTs must comply with installation standards (CRIR 12 190 017.11.09).</p>	<p>Verify that the installation of new or replacement USTs comply with these standards:</p> <ul style="list-style-type: none"> <li>- all tanks, piping, and other related facility components are installed in accordance with a code of practice developed by a nationally recognized association or independent testing laboratory and in accordance with the manufacturer's instructions</li> <li>- the installer is certified or licensed as may be required by the Rhode Island Department of Labor, Division of Professional Regulation</li> <li>- the local city/town building official is notified prior to the commencement of installation.</li> </ul>
<p><b>ST.35.9.RI.</b> New or replacement USTs must comply with precision testing requirements upon installation (CRIR 12 190 017.11.10).</p>	<p>Verify that new or replacement USTs comply with the following requirements for precision testing upon installation:</p> <ul style="list-style-type: none"> <li>- new and replacement facility components are precision tested upon completion of installation and before commencing regular UST operations</li> <li>- results of this initial precision test are submitted to the Director within 15 calendar days of test completion or, in the event of a leak, in accordance with requirements for leak response (see ST.80.2.RI.)</li> <li>- precision tests are capable of detecting a 0.1 gal/h leak rate from the full tank system, accounting for the effects of thermal expansion or contraction of product, vapor pockets, tank deformation, evaporation, condensation, and the location of the water table (the probability of detection cannot be less than 95 percent and the probability of a false alarm can be no more than 5 percent).</li> </ul>

**COMPLIANCE CATEGORY:  
STORAGE TANK MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>ST.35.10.RI.</b> New or replacement underground pipings must comply with design and construction requirements (CRIR 12 190 017.11.11).</p>	<p>Verify that new or replacement underground piping that routinely contain regulated substances, including fittings and connections, are designed and constructed in accordance with the following:</p> <ul style="list-style-type: none"> <li>- fiberglass reinforced plastic piping and nonmetallic flexible piping is made of materials listed by Underwriters Laboratories or Underwriters Laboratories of Canada and equipped with secondary containment</li> <li>- all steel or metal piping is equipped with secondary containment, and all such piping that is in contact with the ground is cathodically protected in the following manner: <ul style="list-style-type: none"> <li>- by coating the piping with suitable dielectric material</li> <li>- except where cathodic protection is provided by impressed current, underground piping systems have dielectric bushings, washers, sleeves or gaskets installed at the end to electrically isolate the piping system from the tank and the dispenser, and the dielectric connectors are chemically compatible with any and all substances stored and be resistant to corrosive soils</li> <li>- all cathodic protection systems are designed, installed, operated and maintained in accordance with the national codes of practice</li> <li>- the use of copper piping is restricted to No. 2 heating oils and to diesel fuel serving generators which employ secondary containment, and, in all cases this piping is protected from damage.</li> </ul> </li> </ul>
<p><b>ST.35.11.RI.</b> New or replacement USTs must be equipped with spill and overfill prevention equipment (CRIR 12 190 017.11.12).</p>	<p>Verify that new and replacement USTs systems are provided with spill prevention equipment that will prevent a release of regulated substance to the environment in the area of the fill pipe.</p> <p>(NOTE: A containment basin may be used to satisfy this requirement. Basins installed after July 1993 must be capable of holding a minimum of 3 gal.)</p> <p>Verify that new and replacement USTs systems are provided with overfill prevention equipment.</p> <p>Verify that all dispensers of motor fuels under pressure from a remote pumping system are equipped with a shear valve (impact valve) which is located in the supply line at the inlet of the dispenser, and designed to close automatically in the event that the dispenser is accidentally dislodged from the inlet pipe.</p>
<p><b>ST.35.12.RI.</b> Upgrading existing USTs must meet specific requirements (CRIR 12 190 017.11.12).</p>	<p>Verify that USTs are upgraded no more than once.</p> <p>Verify that the upgrade is properly conducted in accordance with national codes of practice.</p> <p>Verify that the Director receives a written description of the proposed upgrade</p>

<b>COMPLIANCE CATEGORY:</b> <b>STORAGE TANK MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
	<p>method at least 30 days prior to the upgrade.</p> <p>Verify that the upgrade proposal is approved in writing by the Director.</p> <p>Verify that the tank is precision tested following the tank upgrade, and no leaks are detected.</p> <p>Verify that the method for upgrade is compatible with the product or material being or intended to be stored.</p> <p>Verify that at the time of upgrade, the UST system is structurally sound and upgraded in a manner that will prevent releases due to structural failure or corrosion during its operating life.</p> <p>Verify that written verification of this upgrade is submitted to the Director with 15 calendar days of installation.</p>

**COMPLIANCE CATEGORY:  
STORAGE TANK MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>ST.45. UST FILLING</b></p> <p><b>ST.45.1.RI.</b> All USTs must comply with certain spill and overfill requirements (CRIR 12 190 017.10.10).</p>	<p>(NOTE: This checklist item was moved here from ST.30.4.RI., March 1998).</p> <p>Verify that all USTs at existing facilities have been fitted with spill containment basins around all fill pipes with the exception of aboveground fill pipes.</p> <p>Verify that spill containment basins installed after 30 December 1993 are capable of holding a minimum of 3 gal.</p> <p>Verify that all tanks containing No. 2, 4, 5, or 6 heating oil and required to be registered, have spill containment basins.</p> <p>Verify that, except for USTs used to store heating fuels consumed onsite, all underground storage tanks at existing facilities are retrofitted with overfill protection.</p> <p>Verify that written verification of this upgrade is submitted to the Director within 15 calendar days of installation.</p>



**COMPLIANCE CATEGORY:  
STORAGE TANK MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>ST.55. UST REPAIRS</b></p> <p><b>ST.55.1.RI.</b> USTs must be repaired or upgraded only once, and in accordance with specific requirements (CRIR 12 190 017.12.04).</p>	<p>Verify that USTs and/or their associated piping are repaired or upgraded no more than once.</p> <p>Verify that the repair or upgrade meets the following requirement:</p> <ul style="list-style-type: none"> <li>- the repair or upgrade is properly conducted in accordance with the material code of practice and manufacturer's specifications</li> <li>- the Director has approved the repair or upgrade method</li> <li>- the tank system is precision tested within 30 days of the completion of the tank repairs or upgrade, and no leaks are detected</li> <li>- results of precision tests are submitted to the Director within 15 calendar days of test completion</li> <li>- the method of repair or upgrade is compatible with the product or material to be stored</li> <li>- all metal pipe sections and fittings that have released product as a result of corrosion or other damage are replaced</li> <li>- at the time of the upgrade or repair, the UST system is structurally sound and upgraded or repaired in a manner that will prevent releases due to structural failure or corrosion during their operating lives.</li> </ul>



**COMPLIANCE CATEGORY:  
STORAGE TANK MANAGEMENT  
Rhode Island Supplement**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 1998												
RELEASE DETECTION FOR USTs													
ST.60. General													
Existing USTs													
ST.60.1.RI. Existing USTs must comply with specific leak detection requirements (CRIR 12 190 017.10.06.A through 10.06.B.5).	<p>Verify that for double-walled USTs, the owner/operator installs and operates interstitial continuous monitoring consistent with requirements for new or replacement tanks (see ST.60.6.RI. through ST.60.8.RI.).</p> <p>Verify that for single-walled tanks, the owner/operator:</p> <ul style="list-style-type: none"><li>- installs and operates an approved continuous monitoring system compatible with the product and tank material</li><li>- performs a precision test of the tank at 5 yr intervals following the installation of the monitoring device, until the tank has been installed for a period of 20 yr, and thereafter conducts precision tests once every two years.</li></ul> <p>Verify that, for USTs for which the date of installation is known and verifiable, a precision test of the tank system is performed in accordance with the following schedule:</p> <table><tr><td>Test</td><td>USTs Installed Prior to</td><td>USTs Installed On or</td></tr><tr><td></td><td>1-1-65</td><td>After 1-1-65</td></tr><tr><td>Initial Precision Test</td><td>May 1986</td><td>May 1987</td></tr><tr><td>Subsequent Precision Tests Due Dates</td><td>Annually</td><td>5, 8, 11, and 13 yrs (1993, 1995, 1998, and 2000)</td></tr></table> <p>Verify that, for any UST for which the date of installation is not known, the owner/operator performs a precision test of the tank system no later than May 1986, and annually thereafter.</p> <p>(NOTE: For USTs with upgraded corrosion protection, precision testing, in conjunction with inventory control, is a permissible leak detection method for a period no longer than 10 yr after the date of the upgrade, after which a leak detection method that provides for continuous monitoring must be installed.)</p> <p>(NOTE: Tank systems used to store heating oil consumed onsite are exempt from this requirement).</p>	Test	USTs Installed Prior to	USTs Installed On or		1-1-65	After 1-1-65	Initial Precision Test	May 1986	May 1987	Subsequent Precision Tests Due Dates	Annually	5, 8, 11, and 13 yrs (1993, 1995, 1998, and 2000)
Test	USTs Installed Prior to	USTs Installed On or											
	1-1-65	After 1-1-65											
Initial Precision Test	May 1986	May 1987											
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<b>COMPLIANCE CATEGORY:</b> <b>STORAGE TANK MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<p><b>ST.60.2.RI.</b> Precision test results must be submitted to DEM (CRIR 12 190 017 (10.06.B.6) [Citation Revised March 1998].</p>	<p>Verify that each precision test result is submitted to DEM within 15 days of the completion of the test, and includes, at a minimum:</p> <ul style="list-style-type: none"> <li>- the date the test was performed</li> <li>- the facility name and address</li> <li>- the facility owner name and address</li> <li>- the identification of the USTs tested, including volume, stored material and DEM's tank identification number</li> <li>- the brand name and type of precision test equipment used for the test</li> <li>- the identification of the UST system components tested e.g., UST and lines, tank only</li> <li>- the identification of who performed the test, including the names of any persons assisting in the test</li> <li>- data sheets with the test readings recorded</li> <li>- calculations pertaining to the test method and test results</li> <li>- the location of monitoring or observation well, if used in the test procedure</li> <li>- a description of the method used to measure the water table if required, and the result</li> <li>- the signature of a licensed tester attesting to the accuracy of the information submitted in the test result</li> <li>- the DEM facility ID number</li> <li>- a site plan identifying all tanks onsite with tank numbers on cover sheet corresponding to tank numbers on the site plan.</li> </ul> <p>(NOTE: Tank systems used to store heating oil consumed onsite are exempt from this requirement).</p>
<p><b>ST.60.3.RI.</b> Precision tank testing must comply with certain requirements (CRIR 12 190 017.10.06.B.8) [Revised March 1998].</p>	<p>Verify that precision tests are capable of detecting a 0.1 gal/h leak rate from the full tank system, accounting for the effects of thermal expansion or contraction of product, vapor pockets, tank deformation, evaporation, condensation, and the location of the water table, with a probability of detection no less than 95 percent and the probability of a false alarm is no more than 5 percent.</p> <p>(NOTE: Tank systems used to store heating oil consumed onsite are exempt from this requirement).</p>
<p><b>ST.60.4.RI.</b> Existing piping at USTs must comply with certain requirements (CRIR 12 190 017.10.07 and 10.08).</p>	<p>Verify that double walled piping has interstitial or annular space monitoring consistent with requirements for double-walled tanks (see ST.60.1.RI.).</p> <p>Verify that single walled piping meets the following release detection requirements:</p>

**COMPLIANCE CATEGORY:  
STORAGE TANK MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>ST.60.5.RI.</b> Existing USTs must comply with leak monitoring equipment operating requirements (CRIR 12 190 017.10.09).</p>	<ul style="list-style-type: none"> <li>- all tank systems equipped with pressurized piping have a line tightness test upon installation and annually thereafter</li> <li>- all tank systems equipped with suction piping have a line tightness test performed upon installation and 5, 8, 11 and 13 yr following installation, and then annually thereafter</li> <li>- piping pressure tightness tests have a detection limit of 0.1 gal/h at 1.5 times normal operating pressure.</li> </ul> <p>(NOTE: The schedules for tightness testing piping do not apply to time periods preceding the date of required registration.)</p> <p>Verify that all USTs at existing facilities that are equipped with pressurized piping are fitted with a line leak detection system.</p> <p>(NOTE: Tank systems used to store heating oil consumed onsite are exempt from this checklist item).</p> <p>Verify that leak monitoring devices:</p> <ul style="list-style-type: none"> <li>- are installed, calibrated, operated and maintained in accordance with the manufacturer's instructions, including routine maintenance and service checks for operability or running conditions</li> <li>- are tested annually to insure proper operation</li> <li>- are not shutoff or deactivated at any time except for repair</li> <li>- employ an audible alarm and a visual indicator, which is located as to be readily heard and seen by the owner/operator or other personnel during normal working hour</li> <li>- are conspicuously marked or labeled as being monitoring devices and are secured against vandalism, incidental damage and improper deactivation.</li> </ul> <p>Verify that continuous monitoring systems and alarms:</p> <ul style="list-style-type: none"> <li>- are tested by the owner/operator on a monthly basis to ensure that they are operating effectively, and records of such tests are maintained</li> <li>- continuous monitoring systems are designed, constructed, and installed so as to detect a 0.2 gal/h leak rate from any portion of tank system that routinely contains product.</li> </ul> <p>(NOTE: The probability of detection cannot be less than 95 percent and the probability of a false alarm cannot be more than 5 percent.)</p> <p>Verify that any malfunction is repaired within 15 working days of its first occurrence.</p> <p>(NOTE: If the devices cannot be repaired within 15 days, the affected systems must be temporarily closed until satisfactory repairs are made. Any deactivation</p>

**COMPLIANCE CATEGORY:  
STORAGE TANK MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>New or Replacement USTs</b></p> <p><b>ST.60.6.RI.</b> New and replacement USTs must comply with specific leak detection requirements (CRIR 12 190 017.11.14).</p> <p><b>ST.60.7.RI.</b> All new and replacement piping systems must comply with leak detection requirements (CRIR 12 190 017.11.15).</p>	<p>of a monitoring device must be immediately reported to the Department by the owner/ operator.)</p> <p>Verify that all records pertaining to the equipment manufacturer, warranties, maintenance requirements, repairs, maintenance, and testing are maintained onsite for the life of the system or at an alternate location approved by the Director in writing.</p> <p>(NOTE: Tank systems used to store heating oil consumed onsite are exempt from this checklist item).</p> <p>Verify that new and replacement USTs comply with the following leak detection requirements:</p> <ul style="list-style-type: none"> <li>- leak monitoring is installed and continuously operated for all new USTs</li> <li>- the interstitial space in all double-walled USTs is continuously monitored for the presence of both the regulated substance and water</li> <li>- all leak monitoring devices are able to detect the substance stored in the UST and its vapors if the substance is a volatile organic compound or mixture with a vapor pressure less than gasoline, as well as water</li> <li>- continuous monitoring systems are designed, constructed, and installed so as to detect a 0.2 gal/h leak rate from any portion of tank system that routinely contains product, with a probability of detection no less than 95 percent and the probability of a false alarm no more than 5 percent.</li> </ul> <p>(NOTE: Tank systems used to store heating oil consumed onsite are exempt from this requirement).</p> <p>Verify that new and replacement underground piping systems comply with the following requirements for leak detection:</p> <ul style="list-style-type: none"> <li>- new and replacement pressurized piping systems are equipped with a line leak detection system (written verification of this upgrade must be submitted by the owner/operator to the Director with 15 calendar days of installation)</li> <li>- new and replacement pressurized piping systems employ a UL-approved line leak detector capable of detecting a line leakage rate of at least 3 gal/h at 10 psi</li> <li>- if a leak is detected, the leak detection system shuts off or restricts product flow and notifies the operator of the detection of a leak</li> <li>- the interstitial space of double-walled piping or the annular space between</li> </ul>

**COMPLIANCE CATEGORY:  
STORAGE TANK MANAGEMENT  
Rhode Island Supplement**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 1998
<p>ST.60.8.RI. Leak detection equipment must be operated according to specific standards (CRIR 12 190 017.11.16).</p>	<p>the primary piping and secondary containment system is continuously monitored to detect the presence of the regulated substance, and its vapors if the substance is a volatile organic compound or mixture with a vapor pressure less than gasoline</p> <ul style="list-style-type: none"> <li>- the piping collection sump and the submersible pump head containment structure employ a leak monitor activated by the regulated substance or its vapors</li> <li>- new or replacement suction pipings are equipped with a check valve located underneath the dispensing unit.</li> </ul> <p>(NOTE: Tank systems used to store heating oil consumed onsite are exempt from this checklist item).</p> <p>Verify that leak monitoring equipment meets the following operational requirements:</p> <ul style="list-style-type: none"> <li>- leak monitoring devices are installed, calibrated, operated and maintained in accordance with the manufacturer's instructions, including routine maintenance and service checks for operability or running conditions</li> <li>- all leak monitoring devices are tested annually to insure proper operation</li> <li>- all records pertaining to the equipment manufacturer, warranties, maintenance requirements, repairs, maintenance, and testing are maintained onsite for the life of the system or at an alternate location approved by the Director in writing</li> <li>- leak monitoring devices are not shut off or deactivated at any time except for repair</li> <li>- any malfunction is repaired within 15 working days of its first occurrence</li> <li>- if the devices cannot be repaired within 15 working days, the affected UST system is temporarily closed until satisfactory repairs are made</li> <li>- any deactivation of a monitoring device is immediately reported to the Department by the owner/operator</li> <li>- leak monitoring devices employ an audible alarm and a visual indicator which is located as to be readily heard and seen by the owner/operator or other personnel during normal working hour</li> <li>- all monitoring devices are conspicuously marked or labeled as being monitoring devices and are secured against vandalism, incidental damage and improper deactivation</li> <li>- all continuous monitoring systems are tested by the owner/operator on a monthly basis to ensure that they are operating effectively.</li> </ul> <p>(NOTE: Tank systems used to store heating oil consumed onsite are exempt from this checklist item).</p>



**COMPLIANCE CATEGORY:  
STORAGE TANK MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>ST.80. UST RELEASES</b></p> <p><b>ST.80.1.RI.</b> USTs must comply with leak and spill response regulations (CRIR 12 190 017.14.02 and 14.03).</p> <p><b>ST.80.2.RI.</b> USTs must comply with release reporting requirements (CRIR 12 190 017.14.04).</p>	<p>(NOTE: These regulations apply to all new, existing, and abandoned facilities at which petroleum products and/or hazardous materials are stored underground.)</p> <p>Verify that all owners/operators of UST systems storing petroleum or hazardous materials report, investigate, and cleanup any spills, overfills, or releases.</p> <p>Verify that all owners/operators promptly investigate all suspected releases, including, but not limited to, instances where:</p> <ul style="list-style-type: none"> <li>- unusual operating conditions, release detection signals or environmental conditions at the site suggest a release may have occurred</li> <li>- investigation is required by the Department agency to determine the source of a release.</li> </ul> <p>Verify all confirmed and suspected releases from USTs are immediately reported to:</p> <ul style="list-style-type: none"> <li>- the Department</li> <li>- the appropriate local fire official</li> <li>- the local public water supplier, in the event a spill occurs in a public supply watershed or in wellhead protection area for community water supply wells.</li> </ul> <p>Verify that reports contain the following information:</p> <ul style="list-style-type: none"> <li>- name and phone number of person reporting the release</li> <li>- location of the release and name of the facility</li> <li>- date and time of the release</li> <li>- type, and to the extent known, the amount of material released</li> <li>- name and phone number of potentially responsible party if known.</li> </ul> <p>Verify that precision test results which indicate a leak in the system are reported to the Director by the tester within 2 h of the test.</p> <p>(NOTE: During normal working hours reports of releases are made to the DEM UST Section at (401) 277-2234 [fax (401) 521-4230]. At all other times, reports can be made to the DEM 24 h Emergency Response Hotline at (401) 277-3070.)</p>
<p><b>ST.80.3.RI.</b> Certain actions must be taken following a confirmed release from a UST</p>	<p>Verify that, unless directed by DEM to do otherwise, when a confirmed release occurs, the owner/operator takes the following actions:</p> <ul style="list-style-type: none"> <li>- arranges for complete removal of the contents of the UST system to prevent</li> </ul>

<b>COMPLIANCE CATEGORY:</b> <b>STORAGE TANK MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<p>(CRIR 12 190 017.14.05).</p>	<p>further release into the environment within 24 h and as soon as practicable</p> <ul style="list-style-type: none"> <li>- contains all discharged oil, oil-contaminated debris and hazardous waste (such materials must be handled, stored and disposed of in accordance with the state Oil Pollution Control Regulations (see section PO.15.RI.) and other applicable state and Federal statutes, rules and regulations)</li> <li>- assesses fire, health and safety hazards and takes reasonable steps to mitigate any such hazards</li> <li>- inspects any exposed releases and takes steps to prevent the migration of any released regulated substance into the environment, including soils, groundwater or surface waters</li> <li>- investigates for the presence of free product and, if present, initiates free product removal</li> <li>- carries out other actions as directed by the DEM.</li> </ul>
<p><b>ST.80.4.RI.</b> Free product from UST releases must be removed (CRIR 12 190 017.14.06).</p>	<p>Verify that owners/operators comply with the following free product removal requirements:</p> <p>Verify that at sites where free product is present, the owner/operator removes the free product in a manner that minimizes the spread of contamination.</p> <p>Verify that discharges and byproducts from free product recovery and disposal operations are treated or disposed of in compliance with all applicable state and Federal statutes, rules and regulations.</p> <p>Verify that free product removal systems are designed to maximize the removal of free product.</p> <p>Verify that documentation of all free product removal measures is submitted to DEM with the Release Characterization Report and Site Investigation Report, and contains the following information:</p> <ul style="list-style-type: none"> <li>- names of persons implementing the free product removal measures</li> <li>- estimated quantity, type and thickness of free product observed or measured</li> <li>- type of system used to remove free product</li> <li>- locations of any discharges associated with free product recovery activities</li> <li>- type of treatment applied to any water pumped for the purpose of free product removal</li> <li>- disposition of recovered free product.</li> </ul>
<p><b>ST.80.5.RI.</b> A written report must be submitted within 7 days of a confirmed release from a UST (CRIR 12 190</p>	<p>Verify that, within 7 days after confirmation of a release a written report is submitted to the Department summarizing the events related to the release from a UST or UST system and describing the results of initial abatement steps.</p>

<p align="center"><b>COMPLIANCE CATEGORY:</b>  <b>STORAGE TANK MANAGEMENT</b>  <b>Rhode Island Supplement</b></p>	
<p><b>REGULATORY REQUIREMENTS:</b></p>	<p><b>REVIEWER CHECKS:</b>  <b>March 1998</b></p>
<p>017.14.07).</p>	<p>Verify that the reports include:</p> <ul style="list-style-type: none"> <li>- data on the nature and estimated quantity of the release</li> <li>- data from available sources and site investigations concerning these factors: <ul style="list-style-type: none"> <li>- surrounding populations</li> <li>- water quality</li> <li>- use and approximate locations of wells potentially affected by the release</li> <li>- subsurface soil conditions</li> <li>- locations of subsurface sanitary sewers and stormwater lines</li> <li>- climatological conditions, where pertinent</li> <li>- use</li> </ul> </li> <li>- names, addresses, and plat and lot numbers of the owners of all properties that abut the facility</li> <li>- all pertinent data obtained from actions taken as Initial Abatement Actions.</li> </ul>
<p><b>ST.80.6.RI.</b> Owners/operators must conduct site investigations for confirmed releases from USTs (CRIR 12 190 017.14.08).</p>	<p>Verify that, upon completion of an initial Release Characterization Report, owners/operators conduct a full investigation of the release and the onsite and offsite areas known or potentially affected by the release.</p>



<b>COMPLIANCE CATEGORY:</b> <b>STORAGE TANK MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<b>ST.90.</b> <b>UST DOCUMENTATION</b>	<p>(NOTE: The requirements of this section apply to all owners/operators of new and existing UST facilities.)</p>
<b>ST.90.1.RI.</b> Installations/ CW facilities must comply with UST recordkeeping requirements (CRIR 12 190 017.13.02).	<p>Verify that all owners/operators of new and existing facilities maintain on the facility premises or at an alternate location approved by the Director, for 3 yr or the lifetime of the facility, whichever is greater, permanent records of the following:</p> <ul style="list-style-type: none"> <li>- all data used to complete the application for the certificate of registration</li> <li>- all repairs, upgrades or modifications to pipes, fittings or other components of underground storage tank systems</li> <li>- any monitoring, leak detection system, inventory control system and/or UST testing results</li> <li>- records of closure activities</li> <li>- records of leaks, spills, overfills, site investigations, and remedial response activities taken</li> <li>- precision test results</li> <li>- certificate of installation.</li> </ul> <p>Verify that all owners/operators of new and existing facilities (except USTs used to store heating oil consumed on the premises) maintain on the facility premises or at an alternate location approved by the Director, routine records of the following:</p> <ul style="list-style-type: none"> <li>- records of all calibration and standard maintenance performed</li> <li>- records of strip charts, electronic recall device and/or manual recordings for any continuous monitoring instrumentation</li> <li>- records of monthly tests of continuous monitoring systems</li> <li>- all records pertaining to the operation and maintenance of approved corrosion protection method</li> <li>- during those days when the UST facility is in operation, a daily written inventory of the product or material stored, including the following minimum information:               <ul style="list-style-type: none"> <li>- a record of all inflows</li> <li>- a record of all outflows</li> <li>- a daily reconciliation between inflows, outflows and volume on hand</li> <li>- written daily entries of any unusual occurrences that might affect the inflow, outflow or volume on hand</li> <li>- written entries explaining in detail any adjustments to the records.</li> </ul> </li> </ul> <p>Verify that these records are maintained for a minimum period of 3 yr from the date made, or for such longer periods as required by the Director in the resolution</p>

<b>COMPLIANCE CATEGORY:</b> <b>STORAGE TANK MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<p><b>ST.90.2.RI.</b> Inventory discrepancy exigencies must be reported (CRIR 12 190 017.13.03).</p>	<p>of enforcement actions, whichever is greater.</p>
<p><b>ST.90.3.RI.</b> Corrective action plan orders must be recorded in the land records (CRIR 12 190 017.14.16).</p>	<p>Verify that, if inventory recordkeeping indicates a discrepancy of 1 percent or more of the flow-through plus 130 gal on a monthly basis, the owner/operator reports such discrepancy as per the requirements for releases (see ST.80.2.RI.).</p> <p>Verify that any orders of approval relating to corrective action plans developed in response to a leak, spill, or other release, are recorded in the municipal land evidence records.</p>

**COMPLIANCE CATEGORY:  
STORAGE TANK MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>ST.95. CHANGES IN SERVICE OR CLOSURE OF USTs</b></p> <p><b>ST.95.1.RI.</b> The abandonment of USTs is prohibited (CRIR 12 190 017.5.02.A) [Revised March 1998].</p> <p><b>ST.95.2.RI.</b> The closure of USTs must be approved by the Department (CRIR 12 190 017.5.02.B) [Added March 1998].</p> <p><b>ST.95.3.RI.</b> USTs that are removed from service for more than 90 days but less than 180 days must comply with temporary closure regulations (CRIR 12 190 017.15.03).</p>	<p>Verify that the installation/CW facility does not abandon any UST or UST system.</p> <p>Verify that the installation/CW facility obtains the approval of the Department prior to the removal, filling, or other permanent closure of any UST or UST system that is required to be registered with the Department.</p> <p>Verify that owners/operators of USTs removed from service for more 90 days (but less than 180 days):</p> <ul style="list-style-type: none"> <li>- cap and secure all fill lines against tampering</li> <li>- secure manways, pumps and other components</li> <li>- pump out suction lines</li> <li>- keep the vent lines open</li> <li>- maintain records regarding: <ul style="list-style-type: none"> <li>- UST location and size</li> <li>- the date on which USTs were taken out of operation</li> <li>- the procedures used to maintain the facility in a safe condition</li> </ul> </li> <li>- continue to comply with all general operating requirements, including but not limited to, maintenance of corrosion protection, release reporting and investigation, and leak and spill response and corrective action requirements</li> <li>- continue to comply with all release detection requirements if regulated substances are stored in the UST or if greater than 1 in. of residue is measured in the tank bottom following evacuation of liquids.</li> </ul> <p>(NOTE: The original ST.95.3.RI. was merged with ST.95.4.RI.; this checklist item was the original ST.95.2.RI.)</p>
<p><b>ST.95.4.RI.</b> Abandoned tanks and tanks closed for</p>	<p>Verify that all owners/operators that have removed any UST from operation for more than 180 days and have not been granted an extension of temporary closure</p>

**COMPLIANCE CATEGORY:  
STORAGE TANK MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p>longer than 180 days must undergo permanent closure (CRIR 12 190 017.15.04 and 15.05) [Revised March 1998].</p> <p><b>ST.95.5.RI.</b> A certificate of closure is required prior to closure (CRIR 12 190 017.15.06).</p> <p><b>ST.95.6.RI.</b> Notification of closure must meet certain requirements (CRIR 12 190 017.15.08).</p> <p><b>ST.95.7.RI.</b> Owners/operators of USTs undergoing permanent closure must perform and submit closure</p>	<p>by the Director or who have abandoned any UST comply with permanent closure procedures.</p> <p>(NOTE: The Director may extend the period of temporary closure to more than 180 days upon a showing of good cause by the owner/operator.)</p> <p>Verify that written requests for an extension are filed with the Director no later than 150 days from the date the USTs was/were temporarily removed from service.</p> <p>Verify that owners/operators requesting an extension of a temporary closure for a period of greater than 12 mo perform a closure assessment prior to such an extension being granted.</p> <p>Verify that a certificate of closure is applied for at least 10 days prior to the date the UST is to be permanently removed from service.</p> <p>Verify that owners/operators comply with the following requirements for notification and inspection of closures:</p> <ul style="list-style-type: none"> <li>- the owner/operator notifies the Department at least three working days prior to the proposed date of excavation or closure of the UST (notification may be made by a contractor acting on the owner's behalf)</li> <li>- the owner/operator makes arrangements so that the UST to be closed and the excavation zone are made available for inspection by DEM personnel during the closure process</li> <li>- the owner/operator retains consultants to be present on the site during the tank removal process in order to ensure that an adequate closure assessment is performed.</li> </ul> <p>(NOTE: The requirement for consultants does not apply to:</p> <ul style="list-style-type: none"> <li>- USTs which store fuel oil consumed solely onsite</li> <li>- USTs of less than 1,100 gas in capacity which store motor fuels at farm or residential sites, provided that the fuel is for onsite use</li> <li>- holding tanks.)</li> </ul> <p>Verify that closure assessments are performed in accordance with DEM guidelines and indicate whether contamination was detected at the closure site.</p> <p>Verify that closure assessments are submitted to the DEM in writing and include</p>

**COMPLIANCE CATEGORY:  
STORAGE TANK MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p>assessments (CRIR 12 190 017.15.10).</p>	<p>at a minimum:</p> <ul style="list-style-type: none"> <li>- physical descriptions of all USTs removed or otherwise closed</li> <li>- an inspection of the condition of the USTs, including identification of any holes</li> <li>- observations of the soil conditions in the excavation zone</li> <li>- observations of any groundwater encountered in the excavation zone or observed via monitoring or observation wells</li> <li>- descriptions of an analytical methods used to evaluate site conditions and resulting data</li> <li>- the name and qualifications of the person preparing the closure assessment.</li> </ul> <p>Verify that the closure assessment is submitted to the Department within 30 days after the date of the UST closure (or as otherwise specified by the Director).</p> <p>(NOTE: The requirement for closure assessments does not apply to:</p> <ul style="list-style-type: none"> <li>- USTs which store fuel oil consumed solely onsite</li> <li>- USTs of less than 1,100 gal in capacity which store motor fuels at farm or residential sites, provided that the fuel is for onsite use</li> <li>- holding tanks.)</li> </ul>
<p><b>ST.95.8.RI.</b> UST closure by removal must meet specific requirements (CRIR 12 190 017.15.11).</p>	<p>Verify that the owner/operator complies with the following requirements when closing USTs by removal:</p> <ul style="list-style-type: none"> <li>- all product is removed from the USTs and connecting lines</li> <li>- local fire safety officials are notified of the date, time, and place of removal activities</li> <li>- the UST is cleaned to remove any remaining product or residual material and the product or residual material is disposed of in accordance with applicable Federal, state and local statutes, ordinances, rules and regulations</li> <li>- the gaseous vapors are released at the site in a safe manner consistent with national codes of practice, and in accordance with the closure application approved by the Department</li> <li>- before final disposal, openings are made in the UST to render it unfit for further use</li> <li>- any excavated contaminated soil or debris is stored, handled and disposed of in accordance with appropriate state and federal statutes, rules or regulations</li> <li>- the owner/operator of the facility, as well as the person responsible for transporting any residues or contaminated soil generated by the closure, keeps records indicating the final destination for all such materials, the date of shipment(, and the person or company responsible for the transportation (in the case of material managed as a hazardous waste, the manifest required by the Department's Rules and Regulations for Hazardous Waste Management will satisfy this requirement).</li> </ul>

<b>COMPLIANCE CATEGORY:</b> <b>STORAGE TANK MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<b>ST.95.9.RI.</b> UST closure-in-place must meet specific requirements (CRIR 12 190 017.15.12).	<p>Verify that the owner/operator complies with the following requirements when closing USTs in place:</p> <ul style="list-style-type: none"> <li>- the UST and associated piping are precision tested, the test results reveal no leaks, and all results are furnished to the Director</li> <li>- all product is removed from the UST and from all connecting lines</li> <li>- the UST is cleaned to remove any remaining product or residual material and such product or residual material is disposed of in accordance with applicable Federal, state and local statutes, ordinances, rules and regulations</li> <li>- all fill, gauge, pump and vent lines are disconnected and all inlets and outlets are permanently capped or plugged</li> <li>- USTs are filled completely with an inert solid material and all remaining underground piping associated with the UST is permanently capped and secured against tampering.</li> </ul>

## SECTION 11

### TOXIC SUBSTANCES MANAGEMENT

Rhode Island Supplement, March 1998

This section covers the state requirements for Toxic Substances Management and is intended to supplement the U.S. TEAM Guide. Refer to the U.S. TEAM Guide and the DOD Component Supplements for Federal, DOD, and service-specific requirements.

#### Definitions

- *Abrasive Blasting* - the procedure of removing paint from a surface by using mechanical force to apply an abrasive material (e.g., sand, grit, or other similar material) to the painted surface (CRIR 14 000 013.1) [Citation Revised March 1998].
- *Act* -
  1. Title 23, Chapter 24.5 of the General Laws of the State of Rhode Island entitled asbestos abatement (CRIR 14 120 002.A.1).
  2. Title 23, Chapter 24.6 of the General Laws of the State of Rhode Island, 1956, as amended, entitled Lead Poisoning Prevention (CRIR 14 000 013.1) [Citation Revised March 1998].
- *Adequately Wet* - sufficiently mixed or penetrated with liquid to prevent the release of particulates. If visible emissions are observed coming from ACM, then that material had not been adequately wetted. However, the absence of visible emissions is not sufficient evidence of being adequately wet (CRIR 14 120 002.A.1).
- *Agency* - the Rhode Island Department of Health, Division of Occupational and Radiological Health (CRIR 14 120 002.A.1).
- *ASHERA* -Asbestos Hazard Emergency Response Act (CRIR 14 120 002.A.1).
- *Amended Water* - water to which a surfactant has been added (CRIR 14 120 002.A.1).
- *Asbestiform Materials* - those naturally occurring fibers of similar shape, size, strength, surface, and characteristics of asbestos fibers as are otherwise described in the publication entitled *Nonoccupational Health Risks of Asbestiform Fibers*, published by the Committee on Nonoccupational Health Risks of Asbestiform Fibers, Board on Toxicology and Health Hazards of the Commission on Life Sciences of the National Research Council: USEPA and National Academy of Sciences, National Academy Press, Washington, DC 1984, EPA 68-01-4655 (CRIR 14 120 002.A.1).
- *Asbestos* - that unique group of naturally occurring minerals that separate into fibers of high tensile strength, resistant to heat, wear, and chemicals, described as the following types: chrysotile, amosite, crocidolite, tremolite, anthophyllite, and actinolite, and every product containing any of these materials that have been chemically treated and/or altered which, after manufacture, are used for such products and end uses as insulation, textiles, paper, cement sheets, floor tile, wall covering, decorations, coating, sealants, cement pipe, and reinforced plastics and other compounds (CRIR 14 120 002.A.1).
- *Asbestos Abatement* - any activity involving the removal, encapsulation, enclosure, renovation, repair, demolition, or other disturbance of friable asbestos-containing materials. Asbestos abatement shall be synonymous with asbestos management for the purposes of these regulations (CRIR 14 120 002.A.1).

- *Asbestos Abatement Project* - all activities, including site preparation and clean-up, associated with asbestos abatement from the time of initial arrival of the contractor onsite through obtaining an acceptable final clearance air sample in the abatement areas and/or removal of all abated ACM from the project site, whichever is later (CRIR 14 120 002.A.1).
- *Asbestos Abatement Site Supervisor* - any asbestos abatement worker of a licensed asbestos contractor who has been specifically licensed as a supervisor by the Agency and is named on the asbestos contractor's license (CRIR 14 120 002.A.1).
- *Asbestos Abatement Worker* - any employee of a licensed asbestos contractor who engages in asbestos abatement (CRIR 14 120 002.A.1).
- *Asbestos-Containing Material (ACM)* - any material or product which contains more than 1 percent asbestos, as determined using the method specified in Appendix A, Subpart F, 40 CFR Part 763, Section 1, Polarized Light Microscopy (PLM). If the asbestos content of friable material is less than 10 percent as determined by a method other than point counting by PLM, the asbestos content must be verified by point counting using PLM (CRIR 14 120 002.A.1).
- *Asbestos-Containing Waste Materials* - RACM waste and materials contaminated with asbestos including disposable equipment and clothing (CRIR 14 120 002.A.1).
- *Asbestos Contractor* - any person or entity engaged in asbestos abatement as a business and whose employees actually perform the asbestos abatement work (see also asbestos abatement) (CRIR 14 120 002.A.1).
- *Asbestos Hazard Emergency Response Act (AHERA) Regulations* - specific amendments to Title II of the Toxic Substances Control Act enacted by 15 USC Sections 2641 - 2654 and the regulations of the USEPA contained in 40 CFR 763.80 through 763.99 (Subpart E) (CRIR 14 120 002.A.1).
- *Asbestos Inspection Consultant* - an individual who:
  1. conducts inspections and reinspections to identify locations of friable and nonfriable ACM
  2. collects bulk samples of homogeneous areas of friable surfacing materials
  3. conducts surveillance of thermal systems insulation
  4. discharges other such related activities (CRIR 14 120 002.A.1).
- *Authorized Asbestos Disposal Facility* - a location approved for handling asbestos waste by the Rhode Island Department of Environmental Management or by an equivalent regulatory Agency if the material is disposed of outside the state of Rhode Island (CRIR 14 120 002.A.1).
- *Category I Nonfriable Asbestos-Containing Material (ACM)* - any ACM in the form of packings, gaskets, resilient floor covering, and asphalt roofing products (CRIR 14 120 002.A.1).
- *Category II Nonfriable Asbestos-Containing Material (ACM)* - any ACM, excluding Category I nonfriable ACM, that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure (CRIR 14 120 002.A.1).
- *Childhood Lead Poisoning* - a confirmed blood lead level greater than or equal to 10 micrograms/dL of lead of whole blood in a child under 6 yr of age (CRIR 14 000 013.1) [Revised March 1998].
- *Clean Room* - an uncontaminated area or room that is a part of the worker decontamination enclosure system with provisions for storage of worker's street clothes and clean protective equipment (CRIR 14 120 002.A.1).
- *Competent Person* - a designated public employee, designated public maintenance person, maintenance worker in the private sector, teacher and/or parent representative certified under the provision of Subpart D.2 of these regulations (CRIR 14 120 002.A.1).

- *Confirmatory Blood Lead Test(ing)* - analysis of a blood sample obtained by venipuncture to determine quantitative blood lead levels for the purpose of confirming childhood lead poisoning in a child presumptively identified as lead poisoned by a screening test for lead (CRIR 14 000 013.1) [Citation Revised March 1998].
- *Corrected Lead Concentration (CLC)* - the difference between the average apparent lead concentration (ALC) and the average substrate equivalent lead (SEL). The CLC is expressed in units of milligrams per square centimeter (CRIR 14 000 013.1) [Citation Revised March 1998].
- *Cutting* - penetrating with a sharp-edged instrument. This term also includes sawing but does not include shearing, slicing, or punching (CRIR 14 120 002.A.1).
- *Damaged Condition* - material which is loose, delaminating, flaking, cracking, peeling, chipping, chalking, or abraded by friction, or which show evidence of teeth marks (CRIR 14 000 013.1) [Revised March 1998].
- *Demolition* - the wrecking or taking out of any load-supporting structural member of a facility-together with any related handling operations or the intentional burning of a facility (see also Structural Member (CRIR 14 120 002.A.1)).
- *Department* - the Rhode Island Department of Health (CRIR 14 000 013.1) [Citation Revised March 1998].
- *Diagnostic Evaluation* - a history, physical examination, diagnostic blood lead testing, and/or evaluation of iron status (CRIR 14 000 013.1) [Citation Revised March 1998].
- *Director* - the Director of the Rhode Island Department of Health or his/her duly authorized agent (CRIR 14 000 013.1) [Citation Revised March 1998].
- *Dwelling* - any enclosed space that is wholly or partially used or intended to be used for living or sleeping by human occupants (CRIR 14 000 013.1) [Citation Revised March 1998].
- *Emergency Asbestos Abatement Project* - any asbestos abatement project which was not planned but results from a sudden, unexpected event. This includes operations required by nonroutine failures of equipment (CRIR 14 120 002.A.1).
- *Encapsulation* -
  1. The application of an encapsulant to ACM to control the release of asbestos fibers into the air. The encapsulant creates a membrane over the surface (bridging encapsulant) or penetrates the material and binds its components together (penetrating encapsulant) (cf also: removal encapsulant) (CRIR 14 120 002.A.1).
  2. A process of coating and sealing of surfaces with durable coatings formulated to be elastic, long-lasting, and resistant to impact, cracking, peeling, growth of algae, and growth of fungus or other microbiological agents after proper surface preparation (CRIR 14 000 013.1) [Citation Revised March 1998].
- *Enclosure* - a process of resurfacing or covering of surfaces and sealing with mechanically affixed, durable materials (CRIR 14 000 013.1) [Citation Revised March 1998].
- *Equipment Room* - a contaminated area or room which is part of the worker decontamination enclosure system with provisions for storage of contaminated clothing and equipment (CRIR 14 120 002.A.1).
- *Facility* - any institutional, commercial, public or industrial structure, installation or building. For the purpose of compliance with Part F of these regulations. This definition also includes any ship and any structure, installation, or building containing condominiums or individual units operated as a residential cooperative, but excluding residential buildings having four or fewer dwelling units. For the purposes of this definition, any building, structure, or installation that contains a loft used as a dwelling is not considered a residential structure, installation, or building. A structure, installation, or building that was previously subject to either the NESHA

regulations (40 CFR 61, Subpart M) or these regulations is not excluded, regardless of its current use or function. This term does not include a private residence as defined in the Act (CRIR 14 120 002.A.1).

- *Facility Component* - any part of a facility, including equipment (CRIR 14 120 002.A.1).
- *Feathering* - light sanding, performed after damaged material has been removed by scraping, to soften abrupt transitions between:
  1. bare substrate and remaining intact paint
  2. exposed layers of intact paint
  3. patching materials and the surrounding surface.Proper feathering will produce a surface which, after painting, has no edges that can be lifted with a fingernail (CRIR 14 000 013.1) [Citation Revised March 1998].
- *First-Draw Sample* - a 1 L sample of tap water that has been standing undisturbed in the plumbing pipes at least 6 h (CRIR 14 000 013.1) [Citation Revised March 1998].
- *Flushed Sample* - a 1 L sample of tap water collected after the tap has been allowed to run at its maximum flow rate for a minimum of 1 min before the sample collection (CRIR 14 000 013.1) [Citation Revised March 1998].
- *Friable Asbestos Material* - any ACM that, when dry, can be crumbled, pulverized or reduced to powder by hand pressure (CRIR 14 120 002.A.1).
- *Glove Bag* - A sealed compartment with attached inner gloves used for the handling of asbestos containing materials. Properly installed and used, glove bags provide a small work area enclosure typically used for small-scale asbestos stripping operations (CRIR 14 120 002.A.1).
- *Grinding* - reducing to powder or small fragments. This term also includes mechanical chipping or drilling (CRIR 14 120 002.A.1).
- *HEPA or High Efficiency Particulate Air* - a filter capable of filtering out particles of 0.3 microns or greater from a body of air at 99.97 percent efficiency or greater (CRIR 12 031 024.1).
- *HEPA Filtration* -
  1. High efficiency particulate air filtration, found in respirators and vacuum systems, capable of filtering 0.3 micrometer particles with 99.97 percent efficiency (CRIR 14 000 013.1) [Citation Revised March 1998].
  2. High efficiency particulate air filtration found in respirators and vacuum systems capable of filtering 0.3 micrometer particles with 99.97 percent efficiency, for use in asbestos-contaminated environments (CRIR 14 120 002.A.1).
- *HEPA Vacuum* - an industrial/commercial vacuum cleaner equipped with HEPA filtration (CRIR 14 000 013.1) [Citation Revised March 1998].
- *Homogeneous Material* - ACM having a similar distribution of mineralogical types of asbestos and approximately the same percentages of each type throughout (CRIR 14 120 002.A.1).
- *HVAC* - heating, ventilation, and air-conditioning system (CRIR 14 000 013.1) [Citation Revised March 1998].
- *Hydroblasting* - any abrasive blasting using high pressure liquid as the propelling force (CRIR 12 031 024.1).
- *Impenetrable Material* - a material that will not allow any spent abrasives, paint, dust, and/or other debris, including all residues generated by wet paint removal operations, to penetrate through it (CRIR 12 031 024.1).
- *In Poor Condition* - the binding of the material is losing its integrity as indicated by peeling, cracking, or crumbling of the material (CRIR 14 120 002.A.1).

- *Installation* - any building or structure or any groups of buildings or structures at a single demolition or renovation site that are under the control of the same owner or operator (or owner or operator under common control) (CRIR 14 120 002.A.1).
- *Lead-Based Substance* - any paint or other surface coating material containing more than 0.05 percent lead by weight calculated as lead metal in the dried solid (CRIR 12 031 024.1).
- *Lead-Based Paint* - any surface coating material that contains more than 0.05 percent lead by weight calculated as lead metal in the dried solid (CRIR 12 031 024.1).
- *Lead-Containing Waste Material* - any waste, debris, or material intended for disposal, including, but not limited to, disposable equipment and clothing that contains lead in excess of acceptable levels established in regulations (CRIR 14 000 013.1) [Revised March 1998].
- *Lead-Free* - a surface, material, substance, or medium (e.g., water, soil, dust) that either contains no lead or contains lead in amounts less than the maximum acceptable environmental lead levels established of these regulations. The identification of a regulated facility as being lead-free indicates that, at the time it is lead-free, it did not contain sufficient available lead to pose a significant health risk to children under 6 yr of age who might potentially be exposed to lead at the property. A lead-free condition does not require lead hazard reduction and would be expected to persist indefinitely unless additional lead is added. For the purposes of these regulations, the term acceptable lead level shall be synonymous with lead-free (CRIR 14 000 013.1) [Revised March 1998].
- *Lead Hazard Reduction* - any activity which reduces the risk of human exposure to lead-based paint or lead-containing materials or substances lead-contaminated dust, soil or drinking water. For the purposes of these regulations, the term abatement shall be synonymous with lead hazard reduction (CRIR 14 000 013.1) [Revised March 1998].
- *Lead Safe* - a dwelling, dwelling unit, or premises that has undergone sufficient lead hazard reduction to ensure that no significant environmental lead hazard is present, and includes, but is not limited to, covering and encapsulation. For the purposes of these regulations, the term permissible lead level shall be synonymous with lead-safe (CRIR 14 000 013.1) [Citation Revised March 1998].
- *Leaktight* - solids or liquids cannot escape or spill out. This term also means dusttight (CRIR 14 120 002.A.1).
- *License* - the permit issued by the Agency to allow an asbestos contractor to engage in asbestos abatement projects (CRIR 14 120 002.A.1).
- *Localized Touch-Up* - lead hazard reduction and/or surface preparation limited to  $0.1 \text{ m}^2$  [ $1 \text{ ft}^2$ ] for any single area or component, with a further limitation of a total of  $1 \text{ m}^2$  [ $11 \text{ ft}^2$ ] throughout the total work area undergoing lead hazard reduction in a dwelling, dwelling unit, or premises (CRIR 14 000 013.1) [Citation Revised March 1998].
- *Manager* - the authorized agent for the owner of a dwelling, dwelling unit, or premises who is responsible for the day-to-day operation of said dwelling, dwelling unit, or premises (CRIR 14 000 013.1) [Citation Revised March 1998].
- *Mechanical Paint Removal* - the use of any mechanical force including, but not limited to, electrical or other power applied to a device to remove paint from a surface (CRIR 14 000 013.1) [Citation Revised March 1998].
- *MSHA* - the Mine Safety and Health Administration of the U.S. Department of Labor (CRIR 14 000 013.1) [Citation Revised March 1998].
- *NESHAP* - the National Emission Standards for Hazardous Air Pollutants (CRIR 14 120 002.A.1).

- *NIOSH* - the National Institute for Occupational Safety and Health (CRIR 14 000 013.1) [Citation Revised March 1998].
- *Nonfriable Asbestos-Containing Material (ACM)* - any ACM that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure (CRIR 14 120 002.A.1).
- *Nonscheduled Renovation Operation* - a renovation operation necessitated by the routine failure of equipment, which is expected to occur within a given period based on past operating experience, but for which an exact date cannot be predicted (CRIR 14 120 002.A.1).
- *OSHA* - the Occupational Safety and Health Administration of the U.S. Department of Labor (CRIR 14 000 013.1) [Citation Revised March 1998].
- *Owner* - the person or entity having legal title to property and/or buildings. For purposes of publicly owned property only, the owner shall be defined to be the chief executive officer of the state or municipal Agency which owns, leases or controls the use of the property (CRIR 14 000 013.1) [Citation Revised March 1998].
- *Outside Air* - the air outside buildings and structures including, but not limited to, the air under a bridge or in an open air ferry dock (CRIR 14 120 002.A.1).
- *Owner* - the person or entity having legal title to property and/or buildings. For purposes of publicly owned property only, the owner shall be defined to be the chief executive officer of the state or municipal Agency which owns, leases or controls the use of the property (CRIR 14 120 002.A.1).
- *Owner or Operator of a Demolition or Renovation Activity* - any person who owns, leases, operates, controls, or supervises the facility being demolished or renovated or any person who owns, leases, operates, controls, or supervises the demolition or renovation operation, or both (CRIR 14 120 002.A.1).
- *Paint* - any substance applied to a surface as a surface coating, including, but not limited to, household paints, varnishes, and stains (CRIR 14 000 013.1) [Citation Revised March 1998].
- *Paint Stripper* - any chemical and/or caustic substance applied to a surface for the purpose of removing paint (CRIR 12 031 024.1).
- *Particulate Asbestos Material* - finely divided particles of asbestos or material containing asbestos (CRIR 14 120 002.A.1).
- *Permissible Lead Level* - a level of lead which is lead safe in accordance with Subpart B.2 of these regulations [See Lead Safe] (CRIR 14 000 013.1) [Citation Revised March 1998].
- *Person* -
  1. Any individual, corporation, partnership, firm, association, trust, estate, public or private institution, group, Agency, political subdivision of this state, and other state or political subdivision or Agency thereof, and the legal successor, representative, agent or Agency of the foregoing (CRIR 14 120 002.A.1).
  2. Any individual, firm, corporation, association, or partnership and, including but not limited to, municipal and state agencies (CRIR 14 000 013.1) [Citation Revised March 1998].
- *Planned Asbestos Abatement Project* - an asbestos abatement project or a number of such projects in which the amount of asbestos containing material to be removed, stripped or otherwise disturbed within a given period of time can be predicted. Individual, nonscheduled abatements are included if a number of such operations can be predicted to occur during a given period of time based on operating experiences (CRIR 14 120 002.A.1).

- *Premises* - a platted lot or part thereof or unplatted lot or parcel of land, or plot of land, occupied by a dwelling or structure and includes any building, rooming house, accessory structure or other structure thereon which is or will be used by children under 72 mo of age as a primary residence or as a secondary residence (e.g., vacation home, home of a divorced or separated parent who does not have primary custody of the child, or home of a family member or relative at which a given child spends time regularly), as a child care site, or as a playground (for at least 14 days per year) (CRIR 14 000 013.1) [Citation Revised March 1998].
- *Private Residence* - any structure which is designated within National Building Code Use Groups R3 or R4 (CRIR 14 120 002.A.1).
- *Regulated Asbestos-Containing Material (RACM)* -
  1. friable asbestos material
  2. Category I nonfriable ACM that has become friable
  3. Category I nonfriable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading
  4. Category I nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized or reduced to powder by the forces expected to act on the material in the course of the demolition or renovation operations regulated by these regulations (CRIR 14 120 002.A.1).
- *Removal* - the taking out of RACM or facility components that contain, or are covered with, RACM from any facility (CRIR 14 120 002.A.1).
- *Removal Encapsulant* - a penetrating encapsulant specifically designed for use in removal of asbestos containing material rather than for permanent encapsulation (CRIR 14 120 002.A.1).
- *Renovation* - altering a facility or one or more facility components in any way, including the stripping or removal of RACM from a facility component. Operations in which load-supporting structural members are wrecked or taken out on demolitions (CRIR 14 120 002.A.1).
- *Repair* - the restoration of asbestos containing insulation that has been damaged, usually located on pipes, boilers, tanks, turbines, ducts or other facility components. Repair usually consists of the application of duct tape, rewettable glass cloth, canvas, cement or other suitable material to seal exposed areas where asbestos fibers may be released. Repair of previously encapsulated asbestos containing materials may involve filling damaged areas with nonasbestos substitutes and re-encapsulating. Repair of enclosures around asbestos containing materials is also included in this category of abatement (CRIR 14 120 002.A.1).
- *Representative Area* - an area representative of surfaces for which the type of surface coating and color of surface coating is the same and for which there is no evidence of a variable painting history (CRIR 14 000 013.1) [Citation Revised March 1998].
- *Representative Sample* - a sample of any paint, including a sample of each layer of paint which is on a structure, that may and/or will be removed from a structure (CRIR 12 031 024.1).
- *Resilient Floor Covering* - asbestos-containing floor tile, including asphalt and vinyl floor tile, and sheet vinyl floor covering containing more than 1 percent asbestos as determined using the methods specified in Appendix A, Subpart F, 40 CFR Part 763, Section 1, Polarized Light Microscopy or any other method approved by the EPA for this type of analysis (CRIR 14 120 002.A.1).
- *Restricted Use Areas* - those areas of a building which have infrequent occupancy such as unmanned boiler rooms, mechanical rooms, electrical rooms, and secured storage rooms, unless these areas supply ventilation air to the other parts of the building, in which case they would be classed according to the areas served by the ventilation air (CRIR 14 120 002.A.1).
- *Sandblasting* - abrasive blasting (CRIR 12 031 024.1).

- *Screening* - a method for identifying an asymptomatic child at high risk of having childhood lead poisoning from a population of children not previously diagnosed as having lead poisoning or in a child not exhibiting signs or symptoms believed to be related to lead poisoning, including the obtaining of the necessary specimens for a blood lead screening test, and specimen handling and preparation (CRIR 14 000 013.1) [Citation Revised March 1998].
- *Shower Room* - a room between the clean room and the equipment room in the worker decontamination enclosure with hot and cold or warm running water controllable at the tap and suitably arranged for complete showering during decontamination (CRIR 14 120 002.A.1).
- *Significant Environmental Lead Hazard* - an environmental source or vehicle of lead exposure which exceeds the lead-safe standard established in Subpart B.2 of these regulations (CRIR 14 000 013.1) [Citation Revised March 1998].
- *Spot Repair* - any removal, repair, encapsulation enclosure or other disturbance which encompasses: (1) up to 10 linear feet of asbestos from piping 2 up to 25 ft<sup>2</sup> of asbestos from any surfaces other than pipes. Large project divided into smaller segments are not Spot Repairs (CRIR 14 120 002.A.1).
- *Strip* - to take off RACM from any part of a facility or facility components (CRIR 14 120 002.A.1).
- *Structural Component* - any pipe, duct, boiler, tank, reactor, turbine, or furnace at or in a facility or any structural member of a facility (CRIR 14 120 002.A.1) (see also: Structural Member).
- *Structural Member* - any load-supporting member of a facility, such as beams and load-supporting walls or any nonload-supporting member, such as ceilings and nonload-supporting walls (CRIR 14 120 002.A.1).
- *Structure* - a whole facility, building, or a major portion thereof, such as a building wing (CRIR 14 120 002.A.1).
- *Substrate Equivalent Lead (SEL)* - the contribution, if any, of substrate materials to the apparent lead concentration (ALC). The average SEL is measured by removing the paint from the substrate and taking additional XRF readings on the substrate where the ALC was obtained. The SEL is expressed in units of milligrams per square centimeter (CRIR 14 000 013.1) [Citation Revised March 1998].
- *Unacceptable Lead Level* - a level of lead which exceeds standards for permissible lead levels established by Subpart B.2 of these regulations, indicating the need for lead hazard reduction to be performed (CRIR 14 000 013.1) [Citation Revised March 1998].
- *Vacuum Blasting* - any abrasive blasting in which the spent abrasive, paint, dust and/or other debris are immediately collected by a vacuum device (CRIR 12 031 024.1).
- *Visible Emissions* - any emissions, which are visually detectable without the aid of instruments, coming from RACM or asbestos containing waste material (CRIR 14 120 002.A.1).
- *Waste Generator* - any owner or operator of a facility covered by these regulation whose act or process produces asbestos containing waste material (CRIR 14 120 002.A.1).
- *Waste Shipment Record* - the shipping document, required to be originated and signed by the waste generator, used to track and substantiate the disposition of asbestos containing waste material (CRIR 14 120 002.A.1).
- *Wet Abrasive Blasting* - any abrasive blasting using compressed air as the propelling force in combination with water to contain the spent abrasive, paint, particulate, dust and/or other debris generated by the operations (CRIR 12 031 024.1).
- *Wet Cleaning* -

1. The process of eliminating asbestos contamination from building surfaces and objects by using cloths, mops or other cleaning utensils which have been dampened with amended water or diluted removal encapsulant and afterwards thoroughly decontaminated or disposed of as asbestos contaminated waste (CRIR 14 120 002.A.1).
  2. A process of eliminating lead contamination from surfaces and objects, including, but not limited to, floors, walls, windows, and window wells by using water or detergent solutions (CRIR 14 000 013.1) [Citation Revised March 1998].
- *Wet Methods, Wetted or Wetting Agents* - the use of amended water or removal encapsulants to control fiber release from asbestos containing materials (CRIR 14 120 002.A.1).
  - *Wet Vacuuming* - a process of cleaning conducted with a vacuum cleaner that:
    1. vacuums previously wetted materials (i.e., wet/dry vacuum cleaner)
    2. uses water as a filter medium (e.g., rainbow vacuum cleaner)
    3. forces water from the vacuum wand onto the surface to be cleaned and vacuums the water back up (e.g., rug cleaner) (CRIR 14 000 013.1) [Citation Revised March 1998].
  - *XRF* - an instrument used to determine lead concentration by x-ray fluorescence (CRIR 14 000 013.1) [Citation Revised March 1998].



**TOXIC SUBSTANCES MANAGEMENT  
GUIDANCE FOR RHODE ISLAND CHECKLIST USERS**

**REFER TO CHECKLIST ITEMS:**

**Asbestos Management**

**Renovation and Demolition of Asbestos-Containing Structures**

T2.5.1.RI. through T2.5.26.RI.

**Asbestos Abatement: General Work Practices**

T2.5.6.RI. through T2.5.17.RI.

**Demolition**

T2.5.18.RI.

**Glove Bag Operations**

T2.5.19.RI. through T2.5.21.RI.

**Removal of Asphalt Roofing**

T2.5.22.RI.

**Spot Repairs**

T2.5.25.RI.

**Asbestos Personnel Training/Certification**

T2.10.1.RI.

**Asbestos Disposal**

T2.15.1.RI. and T2.15.2.RI.

**Lead-Based Paint Management**

**Lead Hazard Reduction**

T4.1.1.RI. through T4.1.10.RI.

**Removal of Exterior Lead-Based Paint**

T4.1.11.RI. through T4.1.18.RI.



**COMPLIANCE CATEGORY:  
TOXIC SUBSTANCES MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>ASBESTOS MANAGEMENT</b></p> <p><b>T2.5. Renovation and Demolition of Asbestos-Containing Structures</b></p> <p><b>T2.5.1.RI.</b> Prior to asbestos abatement an asbestos abatement plan must be submitted to and approved by the Department (CRIR 14 120 002.A.4.1.a).</p> <p><b>T2.5.2.RI.</b> Installations/ CW facilities must not allow persons to be exposed to friable asbestos (CRIR 14 120 002.A.2.3.c) [Citation Revised March 1998].</p> <p><b>T2.5.3.RI.</b> Emergency asbestos abatement projects must meet specific requirements (CRIR 14 120 002(A.4.2)).</p>	<p>Verify that, for any asbestos project, except for those involving spot repairs and private residences, an asbestos abatement plan has been submitted to and approved by the Rhode Island Department of Health, Division of Occupational and Radiological Health.</p> <p>(NOTE: No building or demolition project involving asbestos abatement are issued by any municipal or state official unless the application for the permit includes a certified copy of an approved abatement plan and a certified copy of the license of the asbestos contractor who will undertake the work.)</p> <p>Verify that indoor air levels do not exceed the indoor nonoccupational air exposure standard for asbestos exposure of 0.001 fibers per cubic centimeter (f/cc) for fibers greater than 5 micrometers in length as measured by OSHA-NIOSH phase contrast optical microscopic methods and calculated as an 8-h time-weighted average (or 300 ng/m<sup>3</sup>).</p> <p>Verify that for an emergency asbestos abatement project:</p> <ul style="list-style-type: none"> <li>- the building owner requests advance permission to conduct the emergency project in the absence of an approved asbestos abatement plan</li> <li>- all asbestos abatement beyond spot repairs are performed by a licensed asbestos contractor</li> <li>- the Agency is notified no later than 1 working day following the beginning of the emergency work, and the building owner confirms the name and license number of the asbestos contractor, the amount of asbestos containing material involved and the expected length of the abatement project</li> <li>- within 10 working days of completing the project, the building owner submits a written report to the Agency which includes at a minimum: <ul style="list-style-type: none"> <li>- a narrative description of the areas abated, including the type and quantity of ACM</li> <li>- annotated blueprints, floorplans, or other engineering drawings which show the locations of abated and remaining asbestos containing</li> </ul> </li> </ul>

**COMPLIANCE CATEGORY:  
TOXIC SUBSTANCES MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>T2.5.4.RI.</b> Specific records and notification are required for asbestos abatement projects (CRIR 14 120 002.B.2.1) [Revised March 2998].</p>	<p>material</p> <ul style="list-style-type: none"> <li>- specific work procedures followed during the abatement process</li> <li>- copies of the results of clearance air testing</li> <li>- copies of disposal receipts for all asbestos that was removed</li> <li>- any other information specifically requested by the Agency.</li> </ul> <p>Verify that the Agency was notified in writing at least 10 working days prior to beginning any onsite work.</p> <p>Verify that this notification is amended when the amount of asbestos abated changes by at least 20 percent.</p> <p>Verify that the Agency is notified by telephone when the onsite preparation begins.</p> <p>Verify that the asbestos contractor notifies the local fire fighting authorities in writing prior to initiating any activity.</p> <p>Verify that, when the project begins after the date contained in the notice:</p> <ul style="list-style-type: none"> <li>- notice is given to the Agency by telephone as soon as possible before the original start date</li> <li>- the contractor provides the Agency with written notification of the new start date as soon as possible before, and no later than, the original start date.</li> </ul> <p>Verify that, when the projects begin earlier than the original date, written notice of the new start date is given to the Agency at least 10 working days before the project begins.</p> <p>Verify that the asbestos abatement project does not begin on a date other than the date contained in the written notice of the new start date.</p>
<p><b>T2.5.5.RI.</b> Specific information and documentation must be maintained at asbestos abatement sites (CRIR 14 120 002.B.2.3 and 2.4) [Revised March 1998].</p>	<p>Verify that the following information is maintained at the project site for the duration of the asbestos abatement activity:</p> <ul style="list-style-type: none"> <li>- the name, address, and license number of each asbestos abatement site supervisor and asbestos worker utilized on the project</li> <li>- a complete copy of the approved asbestos abatement plan for the project, including all amendments</li> <li>- starting and completion dates (if completion date differs from that originally scheduled, a statement of reasons for the change will be included)</li> <li>- receipts and/or manifests indicating the dates and amounts of ACM removed from the abatement project site for disposal, as well as the locations to which the ACM has been removed and/or the agents to whom the ACM was</li> </ul>

**COMPLIANCE CATEGORY:  
TOXIC SUBSTANCES MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>Asbestos Abatement: General Work Practices</b></p> <p><b>T2.5.6.RI.</b> Asbestos abatement must follow general work practice requirements (CRIR 14 120 002.B.8.2.a through 8.2.f, and 8.2.i) [Revised March 1998].</p>	<p>transferred</p> <ul style="list-style-type: none"> <li>- the methodology and results of all air sampling conducted by the asbestos contractor during the abatement process</li> <li>- the results of all air sampling required</li> <li>- a 24-h emergency contact number for the asbestos abatement contractor is posted onsite at all times</li> <li>- asbestos abatement site supervisor and asbestos abatement worker licenses (these must be worn or prominently posted at the project site whenever the licensed individual is working in conjunction with an asbestos abatement project)</li> <li>- documentation of compliance with all applicable regulatory requirements</li> <li>- copies of any correspondence with regulatory agencies concerning the project</li> <li>- documentation of current required annual review training for all asbestos abatement site supervisors and asbestos abatement workers utilized on the project, as well as a list of other agents working for the asbestos abatement contractor (copies of current Agency issued asbestos abatement worker licenses may be maintained in lieu of the required training documentation)</li> <li>- a log of control of access to the work areas</li> <li>- a current copy of regulations</li> <li>- documentation of adequacy of compressed air systems/respiratory protection systems</li> <li>- copies of procedures to be followed during medical emergencies, including phone numbers of the nearest hospital and/or rescue squad that will accept individuals with potential asbestos contamination.</li> </ul> <p>Verify that the contractor maintains records of all asbestos abatement projects which it performs, makes these records available to the Agency upon request, and retains the records until the Agency authorizes their disposition.</p> <p>(NOTE: This subsection applies to any asbestos abatement contractor who engages in an asbestos abatement project that involves greater than 10 linear feet (3 m) of pipe covered or coated with asbestos containing material (ACM) or 25 ft<sup>2</sup> [3 m<sup>2</sup>] of ACM used to cover or coat any surface other than pipe.)</p> <p>Verify that barriers to isolate contaminated from uncontaminated areas are constructed of polyethylene sheeting attached securely in place.</p> <p>Verify that all surfaces are wet cleaned of dust or debris.</p> <p>Verify that wet cleaning of contaminated items is performed if necessary.</p> <p>Verify that all movable objects are removed the work areas.</p>

<b>COMPLIANCE CATEGORY:</b> <b>TOXIC SUBSTANCES MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
	<p>Verify that all nonmovable objects in the work area are covered with 6-mil polyethylene sheeting secured in place.</p> <p>Verify that all openings and penetrations between the work area and uncontaminated areas are sealed, including windows, doorways, elevator openings, corridor entrances, drains, ducts, grills, grates, diffusers, and skylights.</p> <p>Verify that floor sheeting consists of two layers of 6-mil polyethylene sheeting.</p> <p>Verify that floor sheeting extends up sidewalls at least 12 in. and is sized to minimize seams.</p> <p>Verify that wall sheeting consists of two layers of 4-mil polyethylene sheeting and is installed to minimize joints and extends beyond wall/floor joint at least 12 in.</p> <p>Verify that no seams are located at wall/floor or wall/wall joints.</p> <p>Verify that a worker decontamination enclosure system, consisting of a clean room, shower room and equipment room, each separated from each other and from the work area by airlocks and accessible through doorways protected with at least two overlapping polyethylene sheets, are provided to prevent contamination of areas outside the work areas.</p> <p>Verify that the following HVAC practices are complied with:</p> <ul style="list-style-type: none"> <li>- all intake and exhaust openings, as well as any seams in system components are sealed with 6-mil polyethylene sheeting and/or tape</li> <li>- all system filters are replaced at the conclusion of the abatement and disposed of as asbestos waste</li> <li>- the ventilation system ductwork interiors are decontaminated whenever necessary.</li> </ul> <p>Verify that the following ventilation procedures are complied with:</p> <ul style="list-style-type: none"> <li>- negative pressure ventilation units with HEPA filtration, in sufficient number to provide one workplace air change every 15 min, are operated continuously from the time of barrier construction through the time acceptable final clearance air-monitoring results are obtained</li> <li>- filtered air are exhausted to uncontaminated interior spaces.</li> </ul>
<b>T2.5.7.RI.</b> [Deleted March 1998].	(NOTE: This checklist item combined with T2.5.6.RI.)
<b>T2.5.8.RI.</b> Asbestos	Verify that warning signs in accordance with OSHA 29 CFR 1926.58(k) are

**COMPLIANCE CATEGORY:  
TOXIC SUBSTANCES MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p>abatement projects must meet signage requirements (CRIR 14 120 002.B.8.2.g).</p>	<p>displayed at all approaches to any location where airborne fiber levels can be expected to exceed the Indoor Nonoccupational Air Exposure Standard.</p> <p>Verify that warning signs to advise the public of the locations within the building where any asbestos abatement activity is in progress are posted at all building entrances and at least one other conspicuous place per floor.</p> <p>Verify that warning signs are posted on vehicles used to transport ACM waste during loading and unloading.</p>
<p><b>T2.5.9.RI.</b> Asbestos abatement must comply with specific cleanup requirements (CRIR 14 120 002(B)(8.2.h.)).</p>	<p>Verify that the following cleanup procedures are complied with:</p> <ul style="list-style-type: none"> <li>- cleanup procedures using HEPA vacuuming and wet cleaning techniques are performed following abatement</li> <li>- wet cleanings are followed by HEPA vacuuming after surfaces have been allowed to dry</li> <li>- the sequence of wet cleaning and vacuuming are repeated at 24-h intervals until no visible residue is observed in the work area.</li> </ul>
<p><b>T2.5.10.RI.</b> [Deleted March 1998].</p>	<p>(NOTE: This checklist item combined with T2.5.6.RI.)</p>
<p><b>T2.5.11.RI.</b> Asbestos abatement projects must meet specific waste management requirements (CRIR 14 120 002.B.8.2.j through 8.2.m) [Revised March 1998].</p>	<p>Verify that all ACM wastes are placed in impermeable containers for disposal.</p> <p>Verify that metal or fiber drums with lock-ring tops are used when asbestos waste contains sharp edged components.</p> <p>Verify that double polyethylene bags used for waste are at least 6-mil thickness and can be securely sealed.</p> <p>(NOTE: Large components or structural members may be removed intact and contained in leaktight wrapping, equivalent to at least two layers of 6-mil polyethylene sheeting, secured with tape for disposal.)</p> <p>Verify that all containers, bags, drums, and wrapped components are labeled.</p> <p>Verify that each container, bag, drum, or wrapped component is labeled or tagged with the name and license number of the asbestos abatement contractor generating the waste, as well as the asbestos abatement project number and location at which the waste was generated.</p> <p>Verify that storage of asbestos waste containers awaiting transport is in a secured</p>

**COMPLIANCE CATEGORY:  
TOXIC SUBSTANCES MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>T2.5.12.RI.</b> [Deleted March 1998].</p> <p><b>T2.5.13.RI.</b> [Deleted March 1998].</p> <p><b>T2.5.14.RI.</b> Asbestos abatement projects must restrict access (CRIR 14 120 002.B.8.2.p) [Revised March 1998].</p> <p><b>T2.5.15.RI.</b> [Deleted March 1998].</p> <p><b>T2.5.16.RI.</b> Asbestos abatement projects must comply with ACM encapsulation requirements (CRIR 14 120 002.B.8.4).</p> <p><b>T2.5.17.RI.</b> Asbestos abatement projects must</p>	<p>location to prevent access by unauthorized personnel.</p> <p>(NOTE: This checklist item combined with T2.5.11.RI.)</p> <p>(NOTE: This checklist item combined with T2.5.11.RI.)</p> <p>Verify that access to work areas are controlled and posting remains in effect until compliance with the air exposure standard has been verified.</p> <p>Verify that the following specific requirements for encapsulation of RACM are practiced:</p> <ul style="list-style-type: none"> <li>- all loose and hanging RACM are removed in accordance with the general practices detailed above</li> <li>- filler material applied to gaps in existing material contains no asbestos, adhere well to the substrate and provide an adequate base for the encapsulating agent</li> <li>- encapsulants are applied using only airless spray equipment with nozzle pressure adjustable between 400 and 1500 psi and in accordance with the manufacturer's recommendations for a particular encapsulant</li> <li>- encapsulated materials are specially designated by signs, labels, color coding, or some mechanism to warn individuals who may be required to disturb the material</li> <li>- encapsulants are not solvent-based nor utilize a vehicle consisting of hydrocarbons.</li> </ul> <p>Verify that the following specific requirements for enclosure of RACM are</p>

**COMPLIANCE CATEGORY:  
TOXIC SUBSTANCES MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p>comply with ACM enclosure requirements (CRIR 14 120 002.B.8.5).</p> <p><b>Demolition</b></p>	<p>practiced:</p> <ul style="list-style-type: none"> <li>- all areas of RACM are adequately wetted with wetting agents if they are to be disturbed during the installation of hangers, brackets, or other portions of the enclosure</li> <li>- all loose and hanging RACM are removed in accordance with the general practices detailed above</li> <li>- nonasbestos containing substitutes are used to patch thermal insulation and fireproofing materials when required and where appropriate</li> <li>- enclosure for RACM are specifically designated by signs, labels, color coding, or some mechanism to warn individuals who may be required to disturb or enter the enclosure.</li> </ul> <p>(NOTE: Abatement projects involving the demolition of structures containing asbestos must comply with the general standards in T2.5.5.RI. through T2.5.17.RI. in addition to these requirements.)</p>
<p><b>T2.5.18.RI.</b> Demolition of structures containing asbestos must meet additional requirements (CRIR 14 120 002.B.8.6).</p>	<p>Verify that any demolition of a structure or portion of a structure which contains structural members, building materials, or structural components composed of or covered by RACM are preceded by a removal of all such materials in accordance with the general and specific requirements.</p> <p>Verify that removal is completed before any activity begins that would breakup, dislodge, or similarly disturb the material and preclude access to the material for subsequent removal.</p> <p>Verify that for emergency asbestos abatement projects, adequately wet the portion of the facility that contains RACM during the wrecking operation.</p> <p>Verify that, if a facility is demolished by intentional burning, all RACM, including Category I and Category II nonfriable ACM, is removed in accordance with the state regulations before burning.</p> <p>(NOTE: In lieu of the general and specific regulations described above for work practices, demolition activities may comply with the following:</p> <ul style="list-style-type: none"> <li>- prior to beginning a demolition project, all doors, windows, floor drains, vents, and other openings to the outside of the building and to areas within the building that do not contain asbestos materials are sealed off with 6-mil polyethylene sheeting and waterproof tape or equivalent acceptable to the Agency</li> <li>- if a structure is to be partially demolished, HVAC equipment in the demolition area or passing through it but servicing areas of the building which will remain, are shutdown and locked out and thoroughly sealed with 6-mil polyethylene sheeting and waterproof tape</li> <li>- if the building owner proposes not to conduct clearance air sampling</li> </ul>

**COMPLIANCE CATEGORY:  
TOXIC SUBSTANCES MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>Glove Bag Operations</b></p> <p><b>T2.5.19.RI.</b> The use of glove bags during removal and/or encapsulation of RACM must meet specific and general requirements (CRIR 14 120 002.B.8.7.a.1 and 8.7.a.2).</p> <p><b>T2.5.20.RI.</b> Glove bag operations that involve less than 260 linear ft (80 m) of pipe covered or coated with RACM, or 160 ft<sup>2</sup> (15 m<sup>2</sup>) of RACM must comply with specific requirements (CRIR 14 120 002.B.8.7a.3).</p>	<p>following asbestos abatement activities conducted for demolition purposes, the building owner will submit written justification to the Agency which describes how personnel who occupy the building prior to demolition are protected.)</p> <p>(NOTE: In certain situations the RACM need not be removed before demolition:</p> <ul style="list-style-type: none"> <li>- it is Category I nonfriable ACM that is not in poor condition and is not friable</li> <li>- it is on a facility component that is encased in concrete or other similarly hard material and is adequately wet whenever exposed during demolition</li> <li>- it was not accessible for testing and was, therefore, not discovered until after demolition began and, as result of the demolition, the material cannot be safely removed (if not removed for safety reasons, the exposed RACM and any asbestos contaminated debris must be treated as asbestos containing waste material and adequately wet at all times until disposed of</li> <li>- it is Category II nonfriable ACM and the probability is low that the materials are crumbled, pulverized, or reduced to powder during demolition.)</li> </ul> <p>(NOTE: For glovebag operations, the requirements of this subsection replace the requirements of checklist items T2.5.6.RI. through T2.5.10.RI.)</p> <p>Verify that all glovebags remain stationary during asbestos abatement activities.</p> <p>Verify that moving and/or sliding glove bag techniques are not used.</p> <p>(NOTE: Abatement projects which do not exceed the scope of spot repairs and which can be contained within one stationary glove bag may be performed in accordance with the glove bag procedures contained in 29 CFR 1926.58.)</p> <p>Verify that all doors, windows, floor drains, vents and other openings to the outside of the building and to areas within the building that do not contain asbestos materials are sealed off with 6-mil polyethylene sheeting and waterproof tape or equivalent acceptable to the Agency.</p> <p>Verify that floor sheeting:</p> <ul style="list-style-type: none"> <li>- consists of at least one layer of 6-mil polyethylene sheeting</li> <li>- is placed directly beneath the glove bag and extends at least 10 ft in all horizontal directions</li> <li>- and, if any wall is less than 10 ft from the glove bag, the floor sheeting is extended up that wall to at least the height of the glove bag.</li> </ul> <p>Verify that HVAC equipment in the abatement area or passing through it but</p>

**COMPLIANCE CATEGORY:  
TOXIC SUBSTANCES MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>T2.5.21.RI.</b> Glovebag operations that involve more than 260 linear ft (80 m) of pipe covered or coated with RACM or 160 ft<sup>2</sup> (15 m<sup>2</sup>) of RACM must comply with specific requirements (CRIR 14 120 002(B)(8.7(a4))).</p>	<p>servicing other areas of the building are shutdown and locked out and thoroughly sealed with 6-mil polyethylene sheeting and waterproof tape.</p> <p>Verify that negative pressure ventilation units with HEPA filtration are operated continuously from the time of barrier construction through the time acceptable final clearance air-monitoring results are obtained (filtered air will be exhausted to the outside of the building and filtered air will not be exhausted to uncontaminated interior spaces).</p> <p>Verify that manufacturer's instructions concerning preparation, sealing, utilization, and removal of glovebags are followed unless the abatement plan and/or state regulations specify more restrictive requirements.</p> <p>Verify that a worker decontamination enclosure system is available immediately adjacent to the abatement area (a two chamber decontamination system may be used provided that shower facilities are otherwise available on the project site).</p> <p>Verify that all doors, windows, floor drains, vents and other openings to the outside of the building and to areas within the building that do not contain asbestos materials are sealed off with 6-mil polyethylene sheeting and waterproof tape or equivalent acceptable to the Agency.</p> <p>Verify that floor sheeting:</p> <ul style="list-style-type: none"> <li>- consists of at least one layer of 6-mil polyethylene sheeting</li> <li>- is placed directly beneath the glove bag and extends at least 10 ft in all horizontal directions</li> <li>- and, if any wall is less than 10 ft from the glove bag, the floor sheeting is extended up that wall to at least the height of the glove bag.</li> </ul> <p>Verify that wall sheeting consists of at least one layer of 4-mil polyethylene sheeting and is installed to minimize joints and extends from the wall/ceiling joint to at least 12 in. beyond the wall/floor joint with no seams at wall/wall joints.</p> <p>Verify that HVAC equipment in the abatement area or passing through it but servicing other areas of the building are shutdown and locked out and thoroughly sealed with 6-mil polyethylene sheeting and waterproof tape.</p> <p>Verify that negative pressure ventilation units with HEPA filtration are operated continuously from the time of barrier construction through the time acceptable final clearance air-monitoring results are obtained (filtered air will be exhausted to the outside of the building and filtered air will not be exhausted to uncontaminated interior spaces).</p> <p>Verify that manufacturer's instructions concerning preparation, sealing, utilization, and removal of glovebags are followed unless the abatement plan</p>

**COMPLIANCE CATEGORY:  
TOXIC SUBSTANCES MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>Removal of Asphalt Roofing</b></p> <p><b>T2.5.22.RI.</b> Removal of category I nonfriable ACM-asphalt roofing products must meet specific requirements (CRIR 14 120 002.B.8.8).</p>	<p>and/or state regulations specify more restrictive requirements.</p> <p>Verify that a three chamber decontamination enclosure system is available immediately adjacent to the abatement area.</p> <p>Verify that specific requirements for removal of Category I nonfriable ACM-asphalt roofing products are followed, including:</p> <ul style="list-style-type: none"> <li>- all surfaces are wet cleaned of dust and debris</li> <li>- all movable objects are removed from the roof area</li> <li>- all openings or penetrations on the roof area and at least one level below the roof area are sealed, including windows, doorways, drains, ducts, grills, grates, diffusers, and skylights</li> <li>- floor/ground sheeting consists of at least two layers of 6-mil polyethylene sheeting and are utilized as follows: <ul style="list-style-type: none"> <li>- if the roof is pitched, sheeting is applied to the first horizontal surface below the work area and extends from the edge of the building to at least 10 ft away from the building (all material being abated are confined to the roof area)</li> <li>- if the roof is flat, sheeting extends at least 10 ft away from the perimeter of the work area, sheeting is applied such that the outer edge of the sheeting is at least 10 ft from the perimeter of the work area</li> </ul> </li> <li>- all HVAC intake or exhaust vents on the roof area and at least one level below the roof area are shutdown and locked out</li> <li>- all intake and exhaust openings, as well as any seams in system components are sealed with 6-mil polyethylene sheeting and duct tape</li> <li>- a minimum of two chambered worker decontamination enclosure system are provided onsite and procedures for utilization of this system are established which prevent contamination of areas outside the roof area</li> <li>- warning signs are posted in accordance with state regulations</li> <li>- cleanup procedures using HEPA vacuuming and wet cleaning techniques are performed following abatement</li> <li>- personnel air monitoring of asbestos abatement workers may be used in lieu of the clearance air sampling requirements of the state regulations.</li> </ul> <p>Verify that the following precautions are taken with Category I nonfriable ACM:</p> <ul style="list-style-type: none"> <li>- Category I nonfriable ACM is removed in small sections and containerized when wet (at no time will material be allowed to accumulate or become dry)</li> <li>- Category I nonfriable ACM is not be dropped or thrown to the floor/ground level, (for roofs at heights greater than 50 ft above the floor/ground, a dusttight enclosed chute is constructed to transport removed Category I</li> </ul>

**COMPLIANCE CATEGORY:  
TOXIC SUBSTANCES MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
	<p>nonfriable ACM containers for disposal) and Category I nonfriable ACM may be dropped to a raised scaffold or containerized at elevated levels for disposal</p> <ul style="list-style-type: none"> <li>- all Category I nonfriable ACM is adequately wetted before being placed into containers for disposal</li> <li>- a coating of encapsulating agent is applied to any porous surfaces that have been stripped of Category I nonfriable ACM to securely seal any residual fibers that may be present (the encapsulating agent is chosen so as to be compatible with subsequent coverings).</li> </ul>
<p><b>T2.5.23.RI.</b> [Deleted March 1998].</p>	
<p><b>T2.5.24.RI.</b> [Deleted March 1998].</p>	
<p><b>Spot Repairs</b></p>	
<p><b>T2.5.25.RI.</b> Spot repairs must meet specific work practice requirements (CRIR 14 120 002.B.10).</p>	<p>Verify that individuals performing spot repairs are certified as a competent person and take reasonable precautions to prevent the release of asbestos fibers to the environment.</p>
	<p>(NOTE: Reasonable precautions include, but are not limited to, those outlined in Appendix G to OSHA 29 CFR 1926.58, specifically:</p> <ul style="list-style-type: none"> <li>- barriers constructed are adequate to contain asbestos fibers released within the work area</li> <li>- procedures are established to prevent asbestos contamination in all areas outside the work areas</li> <li>- all ACM are wetted prior to removal and kept wet until containerized</li> <li>- HEPA vacuum equipment and wet cleaning techniques are used to clean up the work area following abatement until there is no visible residue</li> <li>- asbestos waste is packaged in impermeable containers such as polyethylene sheeting, bags, and/or fiber or metal drums and is labeled so that labels</li> <li>- each container, bag, drum, or wrapped component also labeled or tagged with the name and license number of the asbestos abatement contractor generating the waste, as well as the asbestos abatement project number and location at which the waste was generated.)</li> </ul> <p>Verify that documentation of all spot repairs is maintained with the permanent</p>

COMPLIANCE CATEGORY: TOXIC SUBSTANCES MANAGEMENT Rhode Island Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 1998
T2.5.26.RI. [Deleted March 1998].	building records.

**COMPLIANCE CATEGORY:  
TOXIC SUBSTANCES MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>ASBESTOS MANAGEMENT</b></p> <p><b>T2.10. Asbestos Personnel Training/Certification</b></p> <p><b>T2.10.1.RI.</b> Personnel engaged in asbestos abatement projects must be licensed (CRIR 14 120 002.A.2.3.b, B.1.1, B.1.2, and B.1.3.e).</p>	<p>Verify that all personnel involved in any asbestos abatement project are licensed to do so by the Agency.</p> <p>(NOTE: Persons who perform only spot repairs are exempted from the licensing requirement. However, persons performing spot repairs are to be certified as competent to perform spot repairs.)</p> <p>Verify that each person has applied for and received the correct license based upon his/her position, training and experience, including:</p> <ul style="list-style-type: none"> <li>- asbestos contractor license</li> <li>- asbestos abatement site supervisor</li> <li>- asbestos abatement worker.</li> </ul> <p>(NOTE: Effective 1 September 1990, all asbestos abatement workers must be licensed on an individual basis. As of this date, licensed asbestos contractors will not utilize any individual as an asbestos abatement worker until the individual's qualifications have been approved by the Agency and an asbestos abatement worker license has been issued. Any person possessing a valid asbestos abatement site supervisor license issued by the Agency are considered to also possess an asbestos abatement worker license for the purpose of the state regulations.)</p> <p>Verify that no onsite work for an approved asbestos abatement project is conducted unless at least one licensed asbestos abatement site supervisor and an individual certified by the American Red Cross (or equivalent) in cardio-pulmonary resuscitation and basic first-aid are physically present on the job site.</p>



**COMPLIANCE CATEGORY:**  
**TOXIC SUBSTANCES MANAGEMENT**  
**Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> March 1998
<p><b>ASBESTOS MANAGEMENT</b></p> <p><b>T2.15. Asbestos Disposal</b></p> <p><b>T2.15.1.RI.</b> Asbestos waste materials must meet disposal requirements (CRIR 14 120 002.B.8.2.n and o) [Revised March 1998].</p> <p><b>T2.15.2.RI.</b> [Deleted March 1998].</p>	<p>Verify that transport and disposal of asbestos waste are in accordance with the provisions of Appendix D to 40 CFR 763, Subpart E and USDOT 49 CFR 173.1300.</p> <p>Verify that all ACM wastes are deposited as soon as is practical by the waste generator at:</p> <ul style="list-style-type: none"> <li>- a waste disposal site operated in accordance with the provisions of 40 CFR 61.154 (see T2.15.3 and T2.15.4 in the TEAM Guide), or equivalent regulations promulgated by a state or local NESHAP designee</li> <li>- a USEPA-approved site that converts RACM and asbestos-containing waste materials into nonasbestos (asbestos-free) material.</li> </ul>



COMPLIANCE CATEGORY: TOXIC SUBSTANCES MANAGEMENT Rhode Island Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 1998
<b>LEAD-BASED PAINT MANAGEMENT</b>  <b>T4.1.</b> <b>Lead Hazard Reduction</b>	<p>(NOTE: The following are regulated facilities and are subject to the requirements in these Regulations, unless otherwise exempted:</p> <ul style="list-style-type: none"> <li>- residential rental units (including common areas)</li> <li>- single-family dwelling units in which children under 6 yr of age reside</li> <li>- licensed child care facilities for children under 6 yr of age (including preschools, daycare facilities, nurseries, elementary schools, playgrounds, foster homes, and shelters)</li> <li>- any other property in which children under 6 yr of age might reside within the next 12 mo (CRIR 14 000 013(2.1)) [Revised March 1998].)</li> </ul> <p>(NOTE: The following are regulated persons subject to the requirements in these Regulations, unless otherwise exempted:</p> <ul style="list-style-type: none"> <li>- owners of any regulated facility</li> <li>- sellers and lessors of residential dwellings, and their agents</li> <li>- individuals or entities licensed or certified pursuant to these regulations such as lead workers, inspectors, assessors, etc.</li> <li>- individuals or entities that conduct lead hazard reduction work or environmental lead inspection work</li> <li>- physicians and other health care providers</li> <li>- school and child-care facilities (CRIR 14 000 013(2.2)) [Revised March 1998].)</li> </ul> <p>(NOTE: Residential dwellings used exclusively to house elderly or disabled persons are exempt from lead hazard reduction requirements as long as no child under 6 yr of age resides in these dwellings for more than 14 days/yr. Zero-bedroom residential dwellings in which no child under 6 yr of age dwells for more than 14 days/yr are exempt from lead hazard reduction requirements (CRIR 14 000 013(2.3)) [Revised March 1998].)</p>
<b>T4.1.1.RI.</b> Persons who engage in lead hazard reduction work must be licensed (CRIR 14 000 013.16) [Revised March 1998].	Verify that persons who engage in lead hazard reduction work are licensed by the state.
<b>T4.1.2.RI.</b> Persons/institutions who conduct	Verify that persons who conduct environmental lead inspections or assessments

**COMPLIANCE CATEGORY:  
TOXIC SUBSTANCES MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p>environmental lead inspections or assessments, lead hazard reduction training courses, or laboratory analysis must be certified (CRIR 14 000 013.18) [Revised March 1998].</p>	<p>are certified by the state.</p> <p>Verify that persons who conduct lead hazard reduction training courses are certified by the state.</p> <p>Verify that institutions which engage in lead laboratory analysis are certified by the state.</p>
<p><b>T4.1.3.RI.</b> Contractors performing lead abatement activities must meet licensing requirements (CRIR 14 000 013.11.2) [Revised March 1998].</p>	<p>Verify that contractors performing lead abatement activities are licensed.</p>
<p><b>T4.1.4.RI.</b> Properties subject to lead hazard reduction requirements must be maintained in a lead-free or lead-safe condition (CRIR 14 000 013.2.4) [Revised March 1998].</p>	<p>Verify that properties subject to lead hazard reduction requirements are maintained in a lead-free or lead-safe condition.</p>
<p><b>T4.1.5.RI.</b> Properties subject to lead hazard reduction requirements must undergo inspection if they were built before 1978 (CRIR 14 000 013.2.4 and 4.1) [Revised March 1998].</p>	<p>Verify that properties subject to lead hazard reduction requirements, built before 1978, meet one of the following inspection requirements:</p> <ul style="list-style-type: none"> <li>- obtain a comprehensive environmental lead inspection</li> <li>- obtain a limited environmental lead inspection</li> <li>- are treated as though all building components and surfaces contain lead in excess of acceptable levels.</li> </ul> <p>Verify that inspections are conducted by a certified lead inspector.</p> <p>Verify that, after inspection, any abatement activities conducted follow state requirements.</p> <p>Verify that properties comply with annual reinspection requirements.</p>
<p><b>T4.1.6.RI.</b> Properties subject to a notice to abate lead</p>	<p>(NOTE:.. Any environmental lead inspection or environmental lead assessment in which significant environmental lead hazards are identified serve as a notice to</p>

**COMPLIANCE CATEGORY:  
TOXIC SUBSTANCES MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
hazards must comply with the terms and conditions of the notice (CRIR 14 000 013.2.4) [Revised March 1998].	abate.)  Verify that properties subject to a notice to a abate lead hazards comply with the terms and conditions of the notice.
<b>T4.1.7.RI.</b> Persons who conduct environmental lead inspections must meet reporting requirements (CRIR 14 000 013.8.1) [Revised March 1998].	Verify that, within five business days after obtaining laboratory results from a lead inspection, persons who conduct lead inspections submit inspection reports to the following:  <ul style="list-style-type: none"> <li>- persons to whom the property belongs</li> <li>- persons who requested the inspection</li> <li>- persons living within the properties inspected who requested a copy of the inspection report</li> <li>- the Department of Health.</li> </ul>
<b>T4.1.8.RI.</b> Lead-containing waste must meet storage and disposal requirements (CRIR 14 000 013.13.7) [Revised March 1998].	Verify that lead-containing waste is either disposed of daily or stored in a secure location to prevent unauthorized access prior to disposal.  Verify that all lead-containing waste is removed from the worksite not later that 1 week after the completion of lead hazard reduction work.  Verify that waste is transported according to state requirements.
<b>T4.1.9.RI.</b> Access to lead hazard reduction work areas must be controlled (CRIR 14 000 013.13.8) [Revised March 1998].	Verify that at least the following reasonable measures are taken to control access to lead hazard reduction work areas:  <ul style="list-style-type: none"> <li>- post lead hazard warning signs</li> <li>- instruct residents in writing that access to all work areas is prohibited until after work is completed</li> <li>- change locks or use padlocks on all entrances (as long as building safety and fire safety codes are recognized).</li> </ul>
<b>T4.1.10.RI.</b> Specific records must be maintained onsite during lead hazard reduction projects (CRIR 14 000 013.13.11) [Revised March 1998].	Verify that the following records are maintained onsite during a lead hazard reduction project:  <ul style="list-style-type: none"> <li>- copies of the original and any revised start-work notification forms</li> <li>- site access log</li> <li>- lead abatement licenses of all persons working on the project</li> <li>- documentation of compliance with regulatory requirements (e.g., workers'</li> </ul>

<b>COMPLIANCE CATEGORY:</b> <b>TOXIC SUBSTANCES MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<b>Removal of Exterior Lead-Based Paint</b>	<ul style="list-style-type: none"> <li>- medical monitoring findings and respirator fit testing)</li> <li>- correspondence with regulatory agencies concerning the project</li> <li>- methodology and results of air sampling</li> <li>- reports of clearance inspections</li> <li>- current copy of lead hazard reduction regulations for Rhode Island.</li> </ul> <p>(NOTE: These requirements apply to all persons engaging in the removal of a lead-based substance from exterior surfaces of buildings and/or other structures, unless exempted.)</p> <p>(NOTE: Removal of nonlead-based paint from a surface is exempted from requirements. To qualify for this exemption, a representative sample of any paint which is to be removed from any surface must be tested prior to the initiation of paint removal and must contain no more than 0.05 percent lead by weight calculated as lead metal in the dried solid. The person performing the paint removal operation is responsible for determining whether lead paint is present on the structure. Paint removal operations that are exempt from these requirements must comply with fugitive emission requirements (see the <i>Air Emissions Management</i> section).</p>
<b>T4.1.11.RI.</b> Installations/CW facilities that engage in the removal of lead-based substances must comply with notification requirements (CRIR 12 031 024.3).	<p>Verify that the following persons are notified in writing, by the person conducting the removal operation, at least 5 days prior to the beginning of any lead paint removal from the exterior surface of any structure:</p> <ul style="list-style-type: none"> <li>- adults residing in the structure from which the lead paint is being removed and/ or residing within 50 ft of the structure from which lead paint is being removed</li> <li>- the owner, agent, and/or property manager of the structure from which the lead paint is being removed and/or of any building located within 50 ft of the structure from which lead paint is being removed</li> <li>- the owner, agent, or manager of any business or organization located in the structure from which the lead paint is being removed and/or within 50 ft of the structure from which lead paint is being removed</li> <li>- the principal of every school and the chief administrative officer of every school within 50 ft of the structure from which lead paint is being removed.</li> </ul> <p>Verify that the notification includes, at a minimum, the following information:</p> <ul style="list-style-type: none"> <li>- the location of the structure from which the lead paint is to be removed</li> <li>- the expected start and completion dates for the lead-paint removal project</li> <li>- the lead-paint removal procedure to be used</li> <li>- the name, address, and telephone number of the individual or company responsible for the lead-paint removal</li> <li>- the following statement: The paint which is removed from this structure</li> </ul>

**COMPLIANCE CATEGORY:  
TOXIC SUBSTANCES MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>T4.1.12.RI.</b> Persons engaged in the removal of lead-based substances must comply with requirements for the preparation of the work area (CRIR 12 031 024.4).</p>	<p>contains lead: Exposure to lead is unhealthful, particularly to young children. Contact the Department of Environmental Management, Division of Air Resources, at 277-2808 for more information.</p> <p>(NOTE: If any changes in the information included in the original notice changes, all parties must be renotified.)</p> <p>Verify that the following procedures are followed prior to the initiation of lead paint removal from any exterior surfaces of buildings:</p> <ul style="list-style-type: none"> <li>- remove or cover with an impenetrable material all toys, play equipment, and furnishings within a minimum of 50 ft, and/or any other distance which spent abrasive, paint, particulate, dust and/or other debris generated by the removal operations may travel, from a surface from which lead-based paint is being removed</li> <li>- place an impenetrable material on the ground at the paint removal worksite to keep any and all spent abrasive, paint, particulate, dust and/or other debris generated by the paint removal operation from being deposited on the ground</li> <li>- the ground sheeting is attached to the ground by staking, weighing down or any other method to ensure that it remains in place during the paint-removal operation</li> <li>- if abrasive blasting, machine sanding, or machine scraping is to be employed, close all doors and windows on the walls to be blasted or sanded and securely seal them from the outside</li> <li>- air-conditioning units on these and adjacent walls are turned off and covered</li> <li>- erect vertical containment shrouds if there is visible movement of abrasive material, paint, dust, and/or other debris beyond ground sheeting</li> <li>- if a wet removal system is to be used, procedures must be employed to contain any and all residues generated by the wet abrasive blasting operations</li> <li>- if a wet removal procedure is to be used, a system must be in place prior to initiation of the removal which allows liquid waste to be collected from the ground containment and placed into appropriate containers for disposal.</li> </ul> <p>Verify that site preparation for exterior paint removal from structures other than buildings is adequate to prevent spent abrasive material, paint, particulate, dust, and/or other debris from being deposited on the ground or in water or from traveling offsite.</p> <p>Verify that, prior to removing paint from structures other than buildings, the person performing the paint removal work and/or the contractor responsible for the removal operation submits a plan which describes the procedure to be employed, to the Division for approval.</p>

**COMPLIANCE CATEGORY:  
TOXIC SUBSTANCES MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>T4.1.13.RI.</b> Heat-based removal methods must comply with specific restrictions (CRIR 12 031 024.5).</p>	<p>Verify that open flame burning is not used to remove paint from exterior surfaces.</p> <p>Verify that heat guns and/or any other device used for removal of paint from exterior surfaces are operated so that the temperature of the gun and/or other device does not exceed 1000 °F.</p>
<p><b>T4.1.14.RI.</b> Chemical-based removal methods must comply with specific restrictions (CRIR 12 031 024.6).</p>	<p>Verify that flammable paint strippers and paint strippers containing methylene chloride are not used to remove paint from exterior surfaces.</p> <p>(NOTE: Nonflammable paint strippers which do not contain methylene chloride may be used for the removal of exterior paint provided that the manufacturers instructions for use of the paint stripper are followed.)</p>
<p><b>T4.1.15.RI.</b> Mechanical removal methods must comply with specific restrictions (CRIR 12 031 024.7).</p>	<p>Verify that machine sanding or machine scraping is used only if the unit is controlled by a HEPA vacuum unit which immediately collects any and all spent abrasive, paint, particulate, dust, and/or other debris generated by the operations.</p> <p>Verify that the sanding or scraping disk is not wider than the direct surface upon which it is being applied.</p> <p>Verify that exterior surfaces are misted with water prior to manual scraping.</p> <p>(NOTE: Dry scraping is not allowed.)</p>
<p><b>T4.1.16.RI.</b> Abrasive blasting removal methods must comply with specific restrictions (CRIR 12 031 024.8).</p>	<p>Verify that dry abrasive blasting is conducted only if any and all spent abrasive, paint, particulate, dust, and/or other debris generated by the blasting is immediately collected by a HEPA vacuum unit.</p> <p>Verify that any person using a vacuum blast system complies with the manufacturers' guidelines when using the system.</p> <p>Verify that hydroblasting or wet abrasive blasting is used for exterior lead paint removal only when a vertical containment system is employed that prevents any and all fallout generated by the operation from traveling beyond the ground containment.</p> <p>Verify that any and all liquid waste generated by the operation are adequately contained and handled in accordance with applicable waste disposal requirements.</p>

**COMPLIANCE CATEGORY:  
TOXIC SUBSTANCES MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>T4.1.17.RI.</b> Sites must be cleaned up at the end of each workday (CRIR 12 031 024.10.1).</p>	<p>Verify that, at the end of each workday, persons conducting the lead-paint removal follow these procedures:</p> <ul style="list-style-type: none"> <li>- if a dry removal procedure was used, spray any and all spent abrasive, paint, particulate, dust, and/or other debris present on ground sheeting and/or other containments with a fine mist of water and collect the residue and place it in an appropriate container</li> <li>- they visually inspect all areas, including areas that extend beyond the sheeted area, to determine whether any spent abrasive, paint, particulate, dust and/or other debris has escaped containment; if any spent abrasive, paint, particulate, dust and/or other debris generated by the lead paint removal operation is observed it must be collected and placed in single 6-mil or double 4-mil plastic bags or another appropriate container</li> <li>- if bags are used they are not overloaded</li> <li>- waste bags and containers are securely sealed and stored in such a way that they are not easily accessible to the public</li> <li>- liquid waste is collected and stored in appropriate containers</li> <li>- plastic sheets used for exterior containments, such as ground sheeting and vertical shrouds, are removed and stored so that they are not easily accessible to the public.</li> </ul>
<p><b>T4.1.18.RI.</b> Specific procedures must be followed at the end of a lead paint removal project (CRIR 12 031 024.10.2).</p>	<p>Verify that, at the completion of a lead paint removal project, persons conducting the removal project:</p> <ul style="list-style-type: none"> <li>- spray the ground sheeting, collect any and all residue, and place it in an appropriate container</li> <li>- ground sheeting is then folded from the ends to the middle and placed into single 6-mil or double 4-mil plastic bags for disposal</li> <li>- collect any and all liquid waste in appropriate containers</li> <li>- inspect the area for any spent abrasive, paint, particulate, dust, and/or other debris which may have escaped containment and collect and place any and all such debris in single 6-mil or double 4-mil plastic bags or an appropriate container.</li> </ul> <p>Verify that any and all bags and containers are securely sealed.</p> <p>Verify that removal and disposal is in accordance with applicable solid and hazardous waste regulations.</p>



## SECTION 12

### WASTEWATER MANAGEMENT

Rhode Island Supplement, March 1998

This section covers the state requirements for Wastewater Management and is intended to supplement the U.S. TEAM Guide. Refer to the U.S. TEAM Guide and the DOD Component Supplements for Federal, DOD, and service-specific requirements.

#### Definitions

- *Agricultural Lands* - those lands utilized for or having the potential for the productions of food crops, feed crops or fiber crops (Code of Rhode Island Rules (CRIR) 12 190 008(5)) [Added March 1998].
- *Animal Feeding Operation* - a lot or a facility (other than an aquatic animal production facility) where (CRIR 12 190 003(3)):
  1. animals (other than aquatic animals) have been, or will be, stabled or confined and fed or maintained for a total of 45 days or more in any 12 mo period
  2. crops, vegetation, forage, growth, or postharvest residues are not sustained in the normal growing season over any portion of the lot or facility.

Two or more animal feeding operations under common ownership are considered, for the purposes of these regulations, to be a single animal feeding operation if they adjoin each other or if they use a common area or system for the disposal of pollutants.

- *Aquaculture Project* - a defined managed water area which uses discharges of pollutants into that designated area for the maintenance or production of harvestable freshwater, estuarine or marine plants and animals. Designated area, as used in this definition, means the portions of the waters of the state within which the permittee or permit applicant plans to confine the cultivated species, using a method or plan of operation (including but not limited to, physical confinement) which on the basis of reliable scientific evidence, is expected to ensure that specific individual organisms comprising an aquaculture crop will enjoy increased growth attributable to the discharge of pollutants, and be harvestable within a defined geographic area (CRIR 12 190 003(3)).
- *Building Renovation* - any addition, replacement, demolition and reconstruction, or modification of an existing structure (CRIR 12 120 002(1)) [Added March 1998].
- *Building Sewer* - the pipe which begins outside the building wall and extends to any place or mechanism of sewage disposal, including, but not limited to a cesspool, leaching chamber, septic tank, or pressure or gravity sewer leading to a leaching system (CRIR 12 120 002(1)) [Added March 1998].
- *Bulking Agent* - material such as sawdust, woodchips or yard trimmings which is added to the sludge to provide structure, lower total moisture content, allow air to reach and be held in small pockets by preventing settling and compaction of the sludge, and in some cases to act as a carbon source for the composting operation (CRIR 12 190 008(5)) [Added March 1998].
- *Bypass* - the intentional diversion of wastes from any portion of a wastewater treatment facility (CRIR 12 190 003(3)).
- *Change of Use* - with respect to individual sewage disposal systems, any change in use or occupancy of any structure or part thereof which would violate any provision of the Rhode Island State Building Code, R.I. General Laws Chapter 23-27.3, as amended, and/or any regulation promulgated thereto without first obtaining the approval of the appropriate building official and/or without the issuance of a certificate of occupancy indicating

that the structure complies with the provisions of the state building code for the proposed new use (CRIR 12 120 002(1)) [Added March 1998].

- *Class A Biosolids* - any composted sludge or treated sludge which meets the metals and pathogen limits established in Appendix 12-3 (CRIR 12 190 008(5)) [Added March 1998].
- *Class B Biosolids* - any composted sludge or treated sludge which meets the metals limits established in Appendix 12-4 (CRIR 12 190 008(5)) [Added March 1998].
- *Class C Biosolids* - any composted sludge or treated sludge which does not meet the metals limits in Appendices 12-3 and 12-4 of these rules and regulations (CRIR 12 190 008(5)) [Added March 1998].
- *Commissioner* - the Commissioner or the Director of the Department of Environmental Management or any designee to whom the Commissioner delegates any powers and duties vested in that office (CRIR 12 190 008(5)) [Added March 1998].
- *Composting* - the biological method of stabilizing organic residues through an aerobic or anaerobic self-heating process (CRIR 12 190 008(5)) [Added March 1998].
- *Composted Sludge* - the reduced pathogen, humus-like material resulting from the composting sludge (CRIR 12 190 008(5)) [Added March 1998].
- *Concentrated Animal Feeding Operation* - an animal feeding operation which meets the criteria in Appendix B of CRIR 12 190 003, or which the Department designates under Rule 27 (CRIR 12 190 003(3)).
- *Concentrated Aquatic Animal Production Facility* - a hatchery, fish farm, or other facility which meets the criteria in Appendix C of CRIR 12 190 003, or which the Department designates under Rule 28 (CRIR 12 190 003(3)).
- *Contiguous Zone* - the entire zone established by the US under Article 24 of the Convention on the Territorial Sea and the Contiguous Zone (CRIR 12 190 003(3)).
- *Cover* - soil or other approved material placed over sewage sludge in a land disposal site or sewage sludge or solid waste in a solid waste landfill (CRIR 12 190 008(5)) [Added March 1998].
- *Department or Departmental or DEM or RIDEM or Director* - the Rhode Island Department of Environmental Management or the director of the Department of Environmental Management or any designee to whom the Director delegates the powers and duties vested in that office (CRIR 12 190 001(7)) [Revised March 1998].
- *Discharge* - to cause or allow the addition or release of any pollutants to the waters of the State or placement of any pollutant where it is likely to enter the waters of the State and includes but is not limited to surface water runoff, spilling, depositing, placing, leaking, pumping, pouring, emitting, emptying, or dumping. This definition includes additions of pollutants into waters of the State from both point and nonpoint sources. This term does not include an addition of pollutants by an indirect discharge (CRIR 12 190 001(7)) [Revised March 1998].
- *Discharge of a Pollutant* - any addition of any pollutant or combination of pollutants to waters of the state from any point source (CRIR 12 190 003(3)).
- *Effluent Limitations* - any restriction imposed by the Director on quantities, discharge rates, and concentrations of pollutants which are discharged from point sources into waters of Rhode Island, the US, the contiguous zone of the ocean (12 190 001(7)) [Revised March 1998].
- *Facility* - any publicly or privately owned treatment works that produces or disposes of sludge, composted sludge or treated sludge (CRIR 12 190 008(5)) [Added March 1998].

- *Feed Crops* - crops grown for consumption by animals (CRIR 12 190 008(5)) [Added March 1998].
- *Fiber Crops* - crops, such as flax or cotton, that are cultivated for their fiber content and are not consumed by humans or by animals intended for human consumption (CRIR 12 190 008(5)) [Added March 1998].
- *Final Cover* - cover material which will be permanently exposed to the environment (CRIR 12 190 008(5)) [Added March 1998].
- *Flood Plain* - that land area adjacent to a river which is, on the average, likely to be covered with flood water resulting from a 100-year frequency storm, and shall be that land so designated as flood plain on the U.S. Department of Housing and Urban Development Federal Insurance Administration Flood Hazard Boundary Map, currently administered by FEMA (CRIR 12 190 008(5)) [Added March 1998].
- *Food Crops* - crops, including tobacco, consumed by humans (CRIR 12 190 008(5)) [Added March 1998].
- *General Permit* - a RIPDES permit issued under Rule 32 authorizing a category of discharges within a geographic area (CRIR 12 190 003(3)).
- *Groundwater* - water found underground which completely fills the open spaces between particles of sediment and spaces within rock formations (CRIR 12 190 008(5)) [Added March 1998].
- *Hazardous Waste* - any waste as defined in accordance with Section 23-19.1-4 of the General Laws of Rhode Island of 1956, as amended, and regulations adopted pursuant thereto (CRIR 12 190 008(5)) [Added March 1998].
- *Humus Toilet* - any self-contained toilet from which no liquid or solid waste materials are regularly discharged and from which a humus-like end product is produced (CRIR 12 120 002(1)) [Added March 1998].
- *Incorporated Into The Soil* - the injection of liquid sludge or liquid treated sludge beneath the surface of the soil or the mixing of sludge, composted sludge or treated sludge with the surface soil.
- *Individual Sewage Disposal System* or *ISDS* - any system of piping, tanks, disposal areas, alternative toilets or other facilities designed to function as a unit to convey, store, treat and/or dispose of sanitary sewage by means other than discharge into a public sewer system (CRIR 12 120 002(1)) [Added March 1998].
- *Interference* - an inhibition or disruption of the partially owned treatment works (POTW), its treatment processes or operations, or its sludge processes, use or disposal which is a cause of or significantly contributes to either a violation of any requirement of the POTWs RIPDES permit (including an increase in the magnitude or duration of a violation) or to prevention of sewage sludge use or disposal by the POTW in accordance with the following statutory provisions and regulations or permits issued thereunder (or more stringent state or local regulations): Section 405 of the Clean Water Act, the Solid Waste Disposal Act (SWDA) (including title II more commonly referred to as the Resource Conservation and Recovery Act (RCRA) and including Rhode Island Rules and Regulations Pertaining to the Disposal and Utilization of Wastewater Treatment facility Sludge), the Clean Air Act, and the Toxic Substances Control Act. An industrial user significantly contributes to such a permit violation or prevention of sludge use or disposal in accordance with above-cited authorities whenever such user (CRIR 12 190 004(5)):
  1. discharges a daily pollutant loading in excess of that allowed by contract with the POTW or by Federal, state, or local law
  2. discharges wastewater which substantially differs in nature or constituents from the user's average discharge
  3. knows or has reason to know that its discharge, alone or in conjunction with dischargers from other sources, would result in a POTW permit violation or prevent sewage sludge use or disposal in accordance with the above-cited authorities as they apply to the POTWs selected method of sludge management.

- *Land Application or Land-Applied* - the spraying or spreading of sludge, composted sludge or treated sludge onto the land surface; the injection of liquid sludge or liquid treated sludge below the land surface; or the incorporation of sludge, composted sludge or treated sludge into the soil so that the sludge, composted sludge or treated sludge can either condition the soil or fertilize crops or vegetation grown in the soil.
- *Maintenance* - the regular cleaning of any leaching chamber, cesspool, septic tank, building sewer, distribution lines or any other component of an individual sewage disposal system for the purpose of removing any accumulated liquid, scum and/or sludge. The term, "maintenance," shall also be held to include any regularly required servicing or replacement of any related mechanical, electrical, or other equipment (CRIR 12 120 002(1)) [Added March 1998].
- *New Discharger* - any building, structure, facility, or installation (CRIR12 190 003(3)):
  1. from which there is or may be a discharge of pollutants
  2. that did not commence the discharge of pollutants at a particular site prior to 13 August 1979
  3. which is not a new source
  4. which has never received a finally effective NPDES permit for discharges at that site.

This definition includes an indirect discharger which commences discharging into waters of the state after 13 August 1979. It also includes any existing mobile point source (other than an offshore or coastal oil and gas exploratory drilling rig or a coastal oil and gas developmental drilling rig) such as a seafood processing rig, seafood processing vessel, or aggregate plant, that begins discharging at a site for which it does not have a permit, and any offshore or coastal mobile oil and gas exploratory drilling rig or coastal mobile oil and gas developmental drilling rig that commences the discharge of pollutants after 13 August 1979, at a site under EPA's permitting jurisdiction for which it is not covered by an individual or general permit and which is located in an area determined by the Director in the issuance of a final permit to be an area of biological concern. In determining whether an area is an area of biological concern, the Director shall consider the factors specified in 40 CFR 125.122(a)(1) through (10). An offshore or coastal mobile exploratory drilling rig or coastal mobile developmental drilling rig will be considered a new discharger only for the duration of its discharge in an area of biological concern.

- *Office of Water Resources* - the Office of Water Resources of the Department of Environmental Management (CRIR 12 190 008(5)) [Added March 1998].
- *Pass Through* - the discharge of pollutants through the POTW into navigable waters in quantities or concentrations which are a cause of or significantly contribute to a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation). An industrial user significantly contributes to such permit violation where it (CRIR 12 190 004(5)):
  1. discharges a daily pollutant loading in excess of that allowed by contact with the POTW or by Federal, state, or local law
  2. discharges wastewater which substantially differs in nature and constituents from the user's average discharge
  3. knows or has reason to know that its discharge, alone or in conjunction with dischargers from other sources, would result in a permit violation
  4. knows or has reason to know that the POTW is, for any reason, violating its final effluent limitations in its permit and that such industrial user's discharge from other sources, increases the magnitude or duration of the POTW's violations.
- *Pathogen* - disease-causing organisms including, but not limited to, certain bacteria, protozoa, viruses, and viable helminth ova (CRIR 12 190 008(5)) [Added March 1998].
- *pH* - the logarithm of the reciprocal of the hydrogen ion concentration (base 10) (CRIR 12 190 008(5)) [Added March 1998].

- *Permit* - an authorization, license or equivalent control document issued by the Department to implement the requirements of the RIPDES Regulations and the Clean Water Act, or previously issued by the EPA prior to delegation of the NPDES program to the state of Rhode Island. Permit includes a general permit, but does not include any document which has not yet been subject to final Department action, such as a draft or proposed permit (12 190 001(5)).
- *Pollutant* - any dredged material, solid waste, incinerator residue, sewage, garbage, sewage sludge, sediment, munitions, chemical wastes, septage, biological materials, radioactive materials, heat, wrecked or discarded equipment, cellar dirt, industrial, municipal, or agricultural waste or effluent, petroleum or petroleum products, including but not limited to oil; or any material which may alter the aesthetic, chemical, physical, biological, thermal or radiological characteristics and/or integrity of water, which may include rock and sand (CRIR 12 190 008(5)) [Added March 1998].
- *Pretreatment Requirements* - any limitation or prohibition quantities, quality, rates, and/or concentrations of pollutants directly or indirectly discharged into or transported by truck or rail or otherwise introduced into a publicly owned treatment works that are imposed by Federal or state regulation or by a POTW (CRIR 12 190 001(7)) [Citation Revised March 1998].
- *Private Drinking Water Supply Well* - any well established for the purpose of meeting all or part of a person's potable water needs provided said well does not supply a public drinking water supply (CRIR 12 190 008(5)) [Added March 1998].
- *Privately Owned Treatment Works* - any facility which is owned by a private individual or private party or corporation or other private entity and is used for the treatment of pollutants. This definition includes sewers, pipes if they convey wastewater to a privately owned treatment works as well as any equipment, building or machinery used in the treatment operation (CRIR 12 190 008(5)) [Added March 1998].
- *Privy* - any facility used for a toilet lacking the flushing aid of water and consisting of a pit or vault into which the waste matter falls (CRIR 12 120 002(1)).
- *Public Drinking Water Supply Well* - any well supplying a water system with piped water for human consumption, provided that such a system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days of the year (CRIR 12 190 008(5)) [Added March 1998].
- *Publicly Owned Treatment Works (POTWs)* - any facility which is used for the treatment of pollutants and is owned by the state or any political subdivision thereof, municipality, or other public entity, including quasi-governmental corporation. This definition includes sewers, pipes if they convey wastewater to a POTW and any equipment, buildings or machinery used in the treatment operation (CRIR 12 190 008(5)) [Added March 1998].
- *Rhode Island Pollutant Discharge Elimination System (RIPDES)* - the Rhode Island system for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing discharge permits and imposing and enforcing pretreatment requirements pursuant to Title 46, Chapter 12 of the general Laws of Rhode Island and the Clean Water Act (12 190 001(7)).
- *Septic Tank* - a watertight receptacle which received the discharge of sewage from a building sewer and is designed and constructed to permit the deposition of settled solids, the digestion of the matter deposited, and the discharge of the liquid portion into a leaching system (CRIR 12 120 002(1)).
- *Sewage or Wastewater* - human waste, or wastes from toilets and other receptacles intended to receive or retain body waste, and any wastes, including wastes from human households, commercial establishments, and industries (CRIR 12 190 008(5)) [Added March 1998].
- *Silviculture* - the growing or cultivation of forests (CRIR 12 190 008(5)) [Added March 1998].

- *Silvicultural Point Source* - any discernible, confined, and discrete conveyance related to rock crushing, gravel washing, log sorting, or log storage facilities which are operated in connection with silvicultural activities and from which pollutants are discharged into waters of the state. The term does not include nonpoint source silvicultural activities such as nursery operations, site preparation, reforestation and subsequent cultural treatment, thinning, prescribed burning, pest and fire control harvesting operations, surface drainage, or road construction and maintenance for which there is natural runoff. However, some of these activities (such as stream crossing for roads) may involve point source discharges of dredged or fill material which may require a 404 permit pursuant to the Clean Water Act (33 CFR Section 209.120 and Part 123, Subpart E) (CRIR 12 190 003(3)).
- *Site* - land used for the treatment, disposal, distribution or utilization of sludge, composted sludge or treated sludge (CRIR 12 190 008(5)) [Added March 1998].
- *Sludge or Sewage Sludge* - residue, partially solid, or solid, treated or untreated, resulting from the treatment of sewage, including such residues from the cleaning of sewers, by processes, such as settling, flotation, filtration and centrifugation, that does not meet the criteria for a hazardous waste (CRIR 12 190 008(5)) [Added March 1998].
- *Transporter* - the person transporting sludge, composted sludge or treated sludge or the person acting on behalf of the person transporting sludge, composted sludge or treated sludge. Any person that transports packaged Class A Biosolids exclusively is not considered a transporter (CRIR 12 190 008(5)) [Added March 1998].
- *Treated Sludge* - sewage sludge which is treated by a chemical, thermophilic or other alternative method to composting (CRIR 12 190 008(5)) [Added March 1998].
- *Vector* - a carrier, usually an animal, capable of transmitting a pathogen from one organism to another (CRIR 12 190 008(5)) [Added March 1998].
- *Waters of the State or The Waters* - all surface water and groundwater of the State of Rhode Island, including all tidewaters, territorial seas, wetlands, and land masses partially or wholly submerged in water; and both inter- and intrastate bodies of water which are, have been or will be used in commerce, by industry, for the harvesting of fish and shellfish or for recreational purposes (CRIR 12 190 001(7)) [Added March 1998].
- *Well* - a bored, drilled or driven shaft or a dug hole, with a depth greater than its largest surface dimension, through which groundwater flows under natural or induced pressure (CRIR 12 190 008(5)) [Added March 1998].
- *Wetlands* - those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas. Freshwater wetlands are determined by the Department in accordance with the Rules and Regulations Governing the Administration and Enforcement of the Freshwater Wetlands Act, as amended. Coastal wetlands are determined by rules and regulations under the jurisdiction of the Coastal Resources Management Council (CRIR 12 190 001(7)) [Added March 1998].

<b>WASTEWATER MANAGEMENT GUIDANCE FOR RHODE ISLAND CHECKLIST USERS</b>
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<b>REFER TO CHECKLIST ITEMS:</b>
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**WASTEWATER MANAGEMENT  
GUIDANCE FOR RHODE ISLAND CHECKLIST USERS**

<b>REFER TO CHECKLIST ITEMS:</b>	
Discharges to the Environment	WA.5.1.RI. through WA.5.4.RI.
Permits	
NPDES	WA.10.1.RI. through WA.10.7.RI.
Treatment Works	WA.20.1.RI.
Discharges to a POTW/FOTW	
General	WA.25.1.RI. through WA.25.3.RI.
Pretreatment Standards	WA.30.1.RI. and WA.30.2.RI.
Sewage Systems	
Privies	WA.100.1.RI.
General	WA.100.2.RI. through WA.100.9.RI.
Humus Toilets	WA.100.10.RI.
Innovative or Alternative Technology	WA.100.11.RI.
Grease Traps	WA.100.12.RI.
Land Application of Sludge	
General	WA.105.1.RI. and WA.105.10.RI.
Sludge Composting	WA.105.11.RI.
Monitoring	WA.120.1.RI.
Recordkeeping and Reporting	WA.125.1.RI.
Surface Disposal of Sludge	
General	WA.135.1.RI. and WA.135.5.RI.
Co-Disposal of Sludge and Solid Waste	WA.135.6.RI.
State-Specific Requirements	WA.145.1.RI. and WA.145.2.RI.

**GUIDANCE FOR APPENDIX USERS**

<b>REFER TO APPENDIX NUMBERS:</b>	<b>REFER TO APPENDIX TITLES:</b>
12-1	Minimum Design Requirements for Individual Sewage Disposal Systems
12-2	Minimum Distances for Individual Sewage Disposal Systems
12-3	Class A Biosolids Limits
12-4	Class B Biosolids Limits
12-5	Maximum Cumulative Loading Rates



**COMPLIANCE CATEGORY:  
WASTEWATER MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>WA.5. DISCHARGES TO THE ENVIRONMENT</b></p> <p><b>WA.5.1.RI.</b> Certain discharges are prohibited (CRIR 12 190 001(11)(C) through (E)) [Revised March 1998].</p> <p><b>WA.5.2.RI.</b> Installations/ CW facilities must prevent the discharge of oil or pollutants into the waters of the state (CRIR 12 100 005(6)) [Added March 1998].</p>	<p>Verify that there are no discharges of storm water, gutter runoff, sump discharges, or street runoff to a treatment works designed to receive only wastewater.</p> <p>Verify that there are no discharges of hazardous waste or hazardous substances into any waters of the State, or discharges of hazardous waste or hazardous substances into a wastewater treatment works (except in compliance with the provisions of these regulations, and in accordance with the terms and conditions of an approval issued by the Director or municipality as may be required under the Rhode Island Pretreatment Regulations.)</p> <p>Verify that there are no discharges of oil, petroleum products or industrial solvents into treatment works designed to treat or control only wastewater or stormwater unless it conforms with Federal, State and local pretreatment requirements.</p> <p>Verify that there are no discharges of oil or petroleum products into the waters of the State (except as allowed by these regulations, and in accordance with the terms and conditions of an approval issued by DEM).</p> <p>Verify that oil and pollutants are not released into the waters or onto the land of the state, except in accordance with a permit.</p> <p>Verify that oil and pollutants are not placed in a location in which they are likely to enter the waters of the state.</p> <p>(NOTE: This prohibition includes, but is not limited to, releases, discharges, or placement of pollutants from:</p> <ul style="list-style-type: none"> <li>- storm water runoff from an oil refinery, oil storage tank farm, or oil manufacturing industry</li> <li>- boat or ship repair and maintenance, including dry dock operations</li> <li>- bilge or ballast water from any vessel</li> <li>- exhaust steam from any coil or other device used to heat oil</li> <li>- drainage from underground pipe gallery used as a conduit for oil pipes</li> <li>- drainage from the floors of a boiler room</li> <li>- drainage from dike areas around oil storage tanks</li> <li>- drainage to unauthorized underground injection wells or lagoons</li> <li>- drainage from automobile repair, maintenance or wrecking operations.)</li> </ul>

**COMPLIANCE CATEGORY:  
WASTEWATER MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>WA.5.3.RI.</b> Discharges of sewage from vessels must be controlled (CRIR 12 190 001(11)(D)) [Revised March 1998].</p>	<p>Verify that there are no discharges of any sewage from a vessel into the waters of the State, except in accordance with these regulations and if discharged via a marine toilet which is either a Type I or Type II marine sanitation device in proper working condition.</p> <p>Verify that there are no discharges of any sewage from a vessel into the waters of the State in an area which has been declared to be a No Discharge Area.</p> <p>Verify that vessels operated or moored in the waters of the State are equipped with a marine toilet that is:</p> <ul style="list-style-type: none"> <li>- a type approved pursuant to the Clean Water Act (CWA)</li> <li>- in proper working condition.</li> </ul> <p>Verify that all vessels operated or moored in a declared No Discharge Area/Zone of the State waters:</p> <ul style="list-style-type: none"> <li>- have the vessel's marine toilets properly sealed to prevent overboard discharges by one of the following means: <ul style="list-style-type: none"> <li>- the through-hull fitting is plugged, or</li> <li>- the Y-valve is secured to the holding tank position by means of a padlock, wire tie, or by removing the seacock handle.</li> </ul> </li> <li>- discharge all sewage to an approved marina pump-out facility.</li> </ul>
<p><b>WA.5.4.RI.</b> Boiler rooms must eliminate oil spills to drains (CRIR 12 100 005(9)(a)) [Added March 1998].</p>	<p>Verify that boiler rooms have either:</p> <ul style="list-style-type: none"> <li>- oil traps or manually operated drain valves, or</li> <li>- eliminated drains from boiler rooms.</li> </ul> <p>Verify that oil traps are adequately [not defined] maintained and cleaned.</p> <p>Verify that drain valves are maintained in the closed position except when the operator is in the process of draining oil-free clean water.</p>

**COMPLIANCE CATEGORY:  
WASTEWATER MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>PERMITS</b></p> <p><b>WA.10. NPDES</b></p> <p><b>WA.10.1.RI.</b> Discharges into the waters of the State must be permitted (CRIR 12 190 003(8), (9), and (27) through (30)) [Revised March 1998].</p>	<p>Verify that installations/CW facilities who discharge or propose to discharge pollutants into the waters and who do not have an effective permit submit a complete application for a Rhode Island Pollutant Discharge Elimination System (RIPDES) permit to the Department.</p> <p>(NOTE: When a facility or activity is owned by one person but operated by another person, it is the operator's duty to obtain a permit.)</p> <p>Verify that concentrated animal feeding operations and concentrated aquatic animal production facilities have RIPDES permits.</p> <p>Verify that discharges into aquaculture projects, discharges from silvicultural point sources.</p> <p>(NOTE: The following discharges do not require a RIPDES permit:</p> <ul style="list-style-type: none"> <li>- any discharge of sewage from vessels, effluent from properly functioning marine engines, laundry, shower, and galley sink wastes, or any other discharge incidental to the normal operation of a vessel (this exclusion does not apply to rubbish, trash, garbage, or other such materials discharged overboard, nor to other discharges when the vessel is operating in a capacity other than as a means of transportation such as when used an energy or mining facility, or when secured to a storage facility or a seafood processing facility, or when secured to the bed of the ocean, contiguous zone or waters of the United States for the purpose of mineral or oil exploration or development)</li> <li>- any discharge of dredged or fill material into waters of the United States which are regulated under Section 404 of the Clean Water Act</li> <li>- any discharge in compliance with the instruction of an On-Scene Coordinator pursuant to 40 CFR 300 (The National Oil and Hazardous Substances Pollution Plan) or 33 CFR 153.305 (Pollution by Oil and Hazardous Substances)</li> <li>- any introduction of pollutants from nonpoint source agricultural and silvicultural activities, including runoff from orchards, cultivated crops, pastures, range lands, and forest lands but not discharges from concentrated animal feeding operations, discharges from concentrated aquatic animal production facilities discharges to aquaculture projects, and discharges from irrigated agriculture</li> <li>- return flows from irrigated agriculture</li> <li>- discharges of pollutants into a privately-owned treatment works, except as the Director may otherwise require to ensure compliance with applicable</li> </ul>

<b>COMPLIANCE CATEGORY:</b> <b>WASTEWATER MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<p><b>WA.10.2.RI.</b> Permitted discharges must meet specific conditions (CRIR 12 190 003(14.01) through (14.06)) [Revised March 1998].</p>	<p>state and federal law and regulations</p> <ul style="list-style-type: none"> <li>- discharges covered by a general permit pursuant to Rule 32 except that the Director may, pursuant to Rule 54, require a person authorized by a general permit to apply for and obtain an individual RIPDES permit</li> <li>- the introduction of sewage, industrial wastes, or other pollutants into publicly owned treatment works by indirect discharge (plans or agreements to switch to this method of disposal in the future do not relieve discharge of the obligation to have and comply with permits until all discharges of pollutants into waters of the United States are eliminated; this exclusion does not apply to the introduction of pollutants to privately owned treatment works or to other discharges through pipes, sewers, or other conveyances owned by a State, municipality or other party not leading to treatment works)</li> <li>- discharges or disposal of pollutants into an underground or subsurface disposal well except that such activity must be approved by the Director pursuant to the Rhode Island Underground Injection Control Regulations.)</li> </ul> <p>Verify that the discharger complies with all conditions of the permit.</p> <p>Verify that no pollutant is discharged more frequently than authorized, or at a level in excess of that which is authorized by the permit.</p> <p>(NOTE: The discharge of any pollutant not specifically authorized in the RIPDES permit or listed and quantified in the RIPDES application constitutes a violation of the permit.)</p> <p>Verify that the discharger does not achieve any effluent concentration by dilution.</p> <p>Verify that the discharger does not increase the use of process water or cooling water or otherwise attempt to dilute a discharge.</p> <p>Verify that all reasonable steps are taken to minimize or prevent any discharge in violation of the permit which has a reasonable likelihood of adversely affecting human health or the environment.</p> <p>Verify that the treatment works are maintained in good working order and operated as efficiently as possible to achieve compliance with the terms and conditions of the permit.</p> <p>(NOTE: Proper operation and maintenance includes, but is not limited to, effective performance based on designed facility removals, adequate funding, effective management, adequate operator staffing and training, and adequate laboratory and process controls including quality assurance procedures as determined to be appropriate by the Director.)</p> <p>Verify that an operation and maintenance plan exists which describes backup or</p>

**COMPLIANCE CATEGORY:  
WASTEWATER MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>WA.10.3.RI.</b> Certain circumstances require notification to the Department (CRIR 12 190 003(16)).</p>	<p>auxiliary facilities or similar systems to assure compliance with permit conditions.</p> <p>Verify that existing manufacturing, commercial, mining, and silvicultural dischargers and research facilities notify the Department as soon as they know or have reason to believe:</p> <ul style="list-style-type: none"> <li>- that any activity has occurred which results in the discharge of any toxic pollutant that is not limited in the permit, if that discharge exceeds the highest of the following notification levels: <ul style="list-style-type: none"> <li>- 100 mg/L</li> <li>- 200 mg/L for acrolein and acrylonitrile; 500 mg/L for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol, and 1 mg/L for antimony</li> <li>- five times the maximum concentration value reported for the pollutant on the permit application</li> <li>- the level established by the Department in accordance with Rule 17</li> </ul> </li> <li>- that they have begun or expect to begin to use, or manufacture as an intermediate or final product or byproduct, any toxic pollutant which was not reported in the permit application.</li> </ul>
<p><b>WA.10.4.RI.</b> RIPDES permit holders must meet specific notification requirements (CRIR 12 190 003(14.17) and (14.22)) [Added March 1998].</p>	<p>Verify that installations/CW facilities give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility.</p> <p>Verify that the installation/CW facility gives reasonable advance notice to the Department of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.</p> <p>Verify that the permit is not transferred to any person except after notice to the Department.</p> <p>Verify that, where the installation/CW facility becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Department, it promptly submit those facts or information.</p>
<p><b>WA.10.5.RI.</b> RIPDES permit holders must meet specific reporting requirements (CRIR 12 190 003(14.18) and (14.19)) [Added March 1998].</p>	<p>Verify that the installation/CW facility immediately report any noncompliance which may endanger health or the environment.</p> <p>Verify that any information is provided orally, when the installation/CW facility becomes aware of the circumstances, by calling DEM at 277-6519 (or 277-2284 at night).</p>

<b>COMPLIANCE CATEGORY:</b> <b>WASTEWATER MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<p><b>WA.10.6.RI.</b> RIPDES permit holders must meet bypass requirements (CRIR 12 190 003(14.20)) [Added March 1998].</p>	<p>Verify that a written submission is provided within 5 days of the time the installation/CW facility becomes aware of the circumstances that contains:</p> <ul style="list-style-type: none"> <li>- a description of the noncompliance and its cause</li> <li>- the period of noncompliance, including exact dates and times</li> <li>- if the noncompliance has not been corrected, the anticipated time it is expected to continue</li> <li>- steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.</li> </ul> <p>Verify that the following are also reported immediately:</p> <ul style="list-style-type: none"> <li>- any unanticipated bypass which exceeds any effluent limitation in the permit</li> <li>- any upset which exceeds any effluent limitation on the permit.</li> <li>- a violation of an maximum daily discharge limitation for any of the pollutants listed by the Director in the permit.</li> </ul> <p>Verify that all instances of noncompliance not otherwise reported are reported at the time monitoring reports are submitted.</p> <p>Verify that there are no bypasses.</p> <p>(NOTE: The Director may take enforcement action for bypass, unless:</p> <ul style="list-style-type: none"> <li>- bypass was unavoidable to prevent loss of life, personal injury, or severe property damage; for purposes of this section "severe property damage" means: <ul style="list-style-type: none"> <li>- substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass; severe property damage does not mean economic losses caused by delays in production</li> <li>- there were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime; this condition is not satisfied if the permittee could have installed adequate backup equipment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance</li> </ul> </li> <li>- the installation/CW facility submits notices as required below.)</li> </ul> <p>Verify that if the installation/CW facility knows in advance of the need for a bypass, it submits prior notice, if possible at least ten days before the date of the bypass.</p> <p>Verify that unanticipated bypasses are reported within 24 h.</p> <p>(NOTE: The installation/CW facility may allow any bypass to occur which does</p>

**COMPLIANCE CATEGORY:  
WASTEWATER MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>WA.10.7.RI.</b> RIPDES permit holders must meet monitoring requirements (CRIR 12 190 003(14.12) and (14.13)) [Added March 1998].</p>	<p>not cause effluent limitation to be exceeded, but only if it is also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of this checklist item.)</p> <p>Verify that the installation/CW facility retain all of the following records for a period of at least five years from the date of the sample, measurement, report or application:</p> <ul style="list-style-type: none"> <li>- records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation</li> <li>- copies of all reports required by the permit</li> <li>- records of all data used to complete the application for this permit.</li> </ul> <p>Verify that records of monitoring information include:</p> <ul style="list-style-type: none"> <li>- the date, exact place, and time of sampling of measurements</li> <li>- the individuals who performed the sampling of measurements</li> <li>- the dates analyses were performed;</li> <li>- the individuals who performed the analyses</li> <li>- the analytical techniques or methods used</li> <li>- the results of the analyses</li> <li>- the volume of effluent discharged at the time of sampling or measurement.</li> </ul>



<b>COMPLIANCE CATEGORY:</b> <b>WASTEWATER MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<b>WA.20.</b> <b>TREATMENT WORKS</b>  <b>WA.20.1.RI.</b> Wastewater treatment plant operators must be certified (CRIR 12 190 007(5)) [Revised March 1998].	<p>Verify that the operator of the wastewater treatment plant is properly certified by the Board of Certification of Operators of Wastewater Treatment Facilities.</p> <p>Verify that anyone hired as an operator holds a certificate (except, the operator may be hired without a certificate if he obtains it within 1 yr of the date of employment.)</p>



**COMPLIANCE CATEGORY:  
WASTEWATER MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>DISCHARGES TO A POTW/FOTW</b></p> <p><b>WA.25. General</b></p> <p><b>WA.25.1.RI.</b> POTWs must meet specific reporting requirements (CRIR 12 190 003(16.02)).</p> <p><b>WA.25.2.RI.</b> Treatment plants must submit operating and maintenance plans with permit applications (CRIR 12 190 006(3) and (7)).</p> <p><b>WA.25.3.RI.</b> The construction or modification of treatment works must be approved (CRIR 12 190 001(13)) [Added March 1998.</p>	<p>Verify that POTWs provide adequate notice to the Department of the following:</p> <ul style="list-style-type: none"> <li>- any new introduction of pollutants into the POTW from an indirect discharger which is subjected to Sections 301 or 306 of the Clean Water Act, if it were directly discharging those pollutants</li> <li>- any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.</li> </ul> <p>(NOTE: Adequate notice includes information on:</p> <ul style="list-style-type: none"> <li>- the quality and quantity of effluent introduced into the POTW</li> <li>- any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.)</li> </ul> <p>Verify that each wastewater treatment facility has prepared and submitted an operation and maintenance plan prescribing standards and procedures by which the wastewater treatment facility is operated and maintained.</p> <p>Verify that all wastewater treatment facilities are operated in accordance with the approved operation and maintenance plan at all times.</p> <p>Verify that the installation/CW facility does not construct, install, or modify any treatment works (including the extension of sewers to an existing sewer system) without having obtained all required approvals from the Director.</p>



<b>COMPLIANCE CATEGORY:</b> <b>WASTEWATER MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<p><b>DISCHARGES TO A POTW/FOTW</b></p> <p><b>WA.30.</b> <b>Pretreatment Standards</b></p> <p><b>WA.30.1.RI.</b> POTWs must have a pretreatment program (CRIR 12 190 003(16.04)) [Revised March 1998].</p>	<p>Verify that the POTW identifies, in terms of character and volume or pollutants, any significant indirect dischargers into the POTW subject to pretreatment standards under Section 307(b) of the Clean Water Act, 40 CFR Part 403, and the Rhode Island Pretreatment Regulations.</p> <p>Verify that the POTW notifies the Department in advance of the quality and quantity of all new introduction of pollutants into a wastewater treatment facility by an existing user of the facility (except for such introductions of nonindustrial pollutants as the Department may exempt from this notification requirement when ample capacity remains in the facility to accommodate new inflows (such notifications estimate the effects of such changes on the effluents to be discharged from the facility).)</p> <p>Verify that the POTW establishes an effective regulatory program, alone or in conjunction with the operators of sewage collection systems, that assures compliance, and monitor progress toward compliance by industrial users with toxicity standards and pretreatment standards.</p> <p>Verify that as actual flows to the facility approach design flow or design loading limits, the POTW submits to the Department for approval a program to prevent overload of the facilities.</p> <p>Verify that the POTW submits a local program when required by and in accordance with 40 CFR Part 403 and the Rhode Island Pretreatment Regulations to assure compliance with pretreatment standards to the extent applicable under Section 307(b) (the local program is incorporated into the permit as described in 40 CFR Part 403 and the Rhode Island Pretreatment Regulations).</p>



<b>COMPLIANCE CATEGORY:</b> <b>WASTEWATER MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<b>SEWAGE SYSTEMS</b>  <b>WA.100.</b>  <b>Privies</b>  <b>WA.100.1.RI.</b> Privies must meet certain construction and maintenance standards (CRIR 12 120 002(14)).  <b>General</b>  <b>WA.100.2.RI.</b> The use, construction, or modification of individual sewage disposal systems must be approved (CRIR 12 120 002(2.00)(a)), (2.01)(a), (2.06), (2.07), and (2.08)) [Revised March 1998].	<p>Verify that approval has been granted for the installation of a privy or chemical-type toilet.</p> <p>Verify that the privy has a self-closing seat cover, a fly-tight vault and superstructure, and a screened vent from the vault to the atmosphere.</p> <p>Verify that, when the privy vault becomes filled to within 2 ft of the surface of the ground, that it will be cleaned and the contents disposed of in a sanitary manner, or it is covered with clean compacted earth to a depth not less than 2 ft.</p> <p>(NOTE: This checklist item was moved here from WA.100.4.RI.; March 1998.)</p> <p>Verify that approval (permit) is obtained for the construction, renovation or change of use of any structure from which sewage is, or will be disposed of by means of an individual sewage disposal system.</p> <p>Verify that the Director's written approval for plans and specification is obtained prior to the installation, construction, alteration or repair of any individual sewage disposal system.</p> <p>(NOTE: Certifications of Site Suitability are not an approval for the construction of any individual sewage disposal system.)</p> <p>Verify that a newly constructed, altered or rebuilt individual sewage disposal system is not used until a certification of conformance is issued.</p> <p>Verify that there is no discharge of sanitary sewage, treated or untreated, into any watercourse or any open or covered drain tributary to a watercourse, without an order for the Director approving the discharge.</p> <p>Verify that there is no discharge, overflow or spillage of any treated or untreated sanitary sewage to the surface of the ground unless permitted by the Director.</p> <p>(NOTE: This will not interfere with the spreading of animal manure on the</p>

**COMPLIANCE CATEGORY:  
WASTEWATER MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>WA.100.3.RI.</b> Individual sewage disposal systems must meet certain standards (CRIR 12 120 002(3)).</p>	<p>surface of the ground in accordance with normal agricultural practices.)</p> <p>Verify that an individual sewage disposal system consists of a septic tank followed by a subsurface seepage system or other sewage disposal method approved by the Director.</p> <p>(NOTE: In the case of laundry waste, a subsurface seepage system may be used without the installation of a septic tank.)</p> <p>Verify that the system was designed to dispose of the estimated maximum days' flow from the building it serves.</p> <p>(NOTE: See Appendix 12-1 for criteria for determining estimated maximum days' flow.)</p> <p>Verify that provisions are made to prevent the flow of surface water from the surrounding area onto the area of the seepage system.</p> <p>Verify that the horizontal distances between the parts of an individual sewage disposal system and certain features (water supply lines, property lines, dwellings, etc.) meet the minimum distances detailed in Appendix 12-2.</p>
<p><b>WA.100.4.RI.</b> Septic tanks must meet specific standards (CRIR 12 120 002(6)).</p>	<p>Verify that septic tanks meet the following standards:</p> <ul style="list-style-type: none"> <li>- capacity <ul style="list-style-type: none"> <li>- for individual dwellings the capacity is 1000 gal for three bedrooms or less, and 1250 gal for four bedrooms; for each additional bedroom add 250 gal</li> <li>- for other individual dwellings: <ul style="list-style-type: none"> <li>- the capacity of the tank for sewage flows up to 500 gpd is at least 1000 gal</li> <li>- for flows between 500 and 1500 gpd, the capacity of the tank is equal to at least two times the day's flow</li> <li>- for flows greater than 1500 gpd the capacity of the tank will be equal 1200 gpd plus 100 percent of the maximum daily flow</li> </ul> </li> </ul> </li> <li>- length, in rectangular tanks the distance between the inlet and outlet, is at least equal to the liquid depth of the tank and at least one and one-half times the width</li> <li>- circular tanks have a diameter of at least 52 in.</li> <li>- the depth of the tank below the flow line is not less than 4 ft or more than 8 ft</li> <li>- multiple compartment tanks, including two individual septic tanks placed in series, are approved provided the total capacity (below the flow line) is not less than 5000 gal and the capacity of the first compartment or tank is at</li> </ul>

**COMPLIANCE CATEGORY:  
WASTEWATER MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>WA.100.5.RI.</b> Persons who plan individual sewage disposal systems must be licensed (CRIR 12 120 002(25.01)) [Added March 1998].</p> <p><b>WA.100.6.RI.</b> Buildings that produce sanitary sewage must be connected to a sewage disposal system (CRIR 12 120 002(2.09)) [Added March 1998].</p> <p><b>WA.100.7.RI.</b> Individual sewage disposal systems must be maintained (CRIR 12 120 002(2.11)) [Added March 1998].</p>	<p>least one-half of the capacity required.</p> <p>Verify that the septic tanks are watertight, and constructed of sound and durable materials not subject to excessive corrosion, decay or frost damage, or to cracking or buckling due to settlement or soil pressures.</p> <p>Verify that tanks and covers are constructed so as to withstand any load that may be expected to be placed upon them.</p> <p>Verify that the septic tanks are:</p> <ul style="list-style-type: none"> <li>- properly designed with inlets and outlets</li> <li>- installed on a stable base foundation</li> <li>- constructed of poured in place reinforced concrete, precast reinforced concrete, coated steel or other material approved by the Director</li> <li>- accessible by manholes</li> <li>- accessible for cleaning</li> <li>- surrounded by backfill.</li> </ul> <p>Verify that no person prepares plans, applications, certifications and specifications for the design of an individual sewage disposal system to be submitted to the Department unless they have a valid license.</p> <p>(NOTE: This provision takes effect one year after the issuance of the first Class I, II, or III Designer's License, which began after 14 September 1997.)</p> <p>Verify that each building having plumbing fixtures that produce sanitary sewage, in a location where no public sanitary sewage system is available or accessible, are provided with an individual sewage disposal system of type and design approved by the Director.</p> <p>Verify that individual sewage disposal systems are maintained in good repair by the owner.</p> <p>Verify that the system is used only for sanitary wastewater in amounts that do not exceed the design flow.</p> <p>Verify that maintenance includes, but not limited to, inspection of the system every 2 - 3 yr, with pumping of the septic tank as needed.</p>

<b>COMPLIANCE CATEGORY:</b> <b>WASTEWATER MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<p><b>WA.100.8.RI.</b> Individual sewage disposal systems must meet location criteria (CRIR 12 120 002(2.15) and (2.17)) [Added March 1998].</p> <p><b>WA.100.9.RI.</b> Commercial laundromats must not discharge to individual sewage disposal systems (CRIR 12 120 002(2.18)) [Added March 1998].</p> <p><b>Humus Toilets</b></p> <p><b>WA.100.10.RI.</b> Humus toilets must meet certain construction and maintenance standards (CRIR 12 120 002(14.05)) [Added March 1998].</p>	<p>Verify that the system is protected from physical disturbance.</p> <p>Verify that no part of an individual sewage disposal system is located within 100 ft of a private well or within 400 ft of a public well.</p> <p>(NOTE: The installation of individual sewage disposal systems at salt water beaches, barrier beaches and on any land within 200 ft of tidal waters, salt water ponds, salt water marshes, salt water wetlands or on other land subject to Coastal Resources Management Council jurisdiction may require a Coastal Resources Management Council permit. It is the responsibility of the applicant to contact the Council.)</p> <p>Verify that commercial laundromats do not discharge to an individual sewage disposal system.</p> <p>Verify that humus toilets meet the following requirements for construction, location and use:</p> <ul style="list-style-type: none"> <li>- separate subsurface sewage disposal facilities are provided for the disposal of any liquid wastes from sinks, tubs, showers and laundry facilities and designed on 80 percent of the normal daily average flow</li> <li>- sufficient land area is provided to expand the subsurface leaching area to accommodate 100 percent of the normal daily design flow.</li> </ul> <p>Verify that large capacity composting toilets have:</p> <ul style="list-style-type: none"> <li>- separate receiving, composting and storage compartments, arranged so that the contents are moved from one compartment to another without spillage, or escape of odors within the dwelling</li> <li>- an interior volume of at least 64 ft<sup>3</sup></li> <li>- all toilet waste deposited in the receiving chamber, which is furnished with a tight self-closing toilet lid</li> <li>- food waste or other materials necessary to the composting action deposited in the composting compartment through a separate opening with a tight fitting lid</li> <li>- the final composting material removed from the storage compartment</li> </ul>

**COMPLIANCE CATEGORY:  
WASTEWATER MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
	<p>through a cleanout opening fitted with a tight door or lid (the cleanout must not be located in a food storage or preparation area)</p> <ul style="list-style-type: none"> <li>- the receiving and composting compartments connected to the outside atmosphere by a screened vent a minimum of 6 in. in diameter that extends at least 20 ft above the openings in the receiving and composting compartments, unless mechanical ventilation is provided</li> <li>- air inlets connected to the storage compartment only, and screened.</li> </ul> <p>Verify that all waste removed from large capacity composting toilets is disposed of by burial or other means approved by the director.</p> <p>Verify that heat assisted composting toilets have:</p> <ul style="list-style-type: none"> <li>- a single compartment furnished with a tight self-closing toilet lid</li> <li>- the compartment connected to the outside atmosphere by a screened vent</li> <li>- a mechanical ventilation fan arranged to control the humidity in the compartment and provide positive venting of odors to the outside atmosphere at all times</li> <li>- a heating unit provided to maintain temperature in the optimum ranged for composting.</li> </ul> <p>Verify that all wastes removed from heat assisted composting toilets are disposed of by burial or other means approved by the director.</p>
<p><b>Innovative or Alternative Technology</b></p> <p><b>WA.100.11.RI.</b> Innovative or alternative technology toilets must be approved (CRIR 12 120 002(14.06)) [Added March 1998].</p>	<p>Verify that the installation/CW facility does not construct, alter or install any innovative or alternative Technology for sewage disposal unless the technology has been placed on the Department's approved list.</p>
<p><b>Grease Traps</b></p> <p><b>WA.100.12.RI.</b> Grease traps should be installed for structures using individual sewage disposal systems where large amounts of grease are generated (CRIR 12 120 002(5.01) through</p>	<p>Verify that grease traps are installed at places such as restaurants, nursing homes, schools, hospitals, or other places from which large quantities of grease can be expected to be discharged, that are connected to individual sewage disposal systems.</p> <p>Verify that grease traps are installed on a separate building sewer serving that part</p>

<b>COMPLIANCE CATEGORY:</b> <b>WASTEWATER MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
(5.03)) [Added March 1998].	<p>of the plumbing system into which the grease is discharged.</p> <p>Verify that the discharge from the grease trap flows to a properly designed septic tank.</p> <p>Verify that grease traps have a minimum depth of 4 ft and a minimum capacity of 1000 gal, and have sufficient capacity to provide at least a 24 hr detention period for the kitchen flow.</p>

**COMPLIANCE CATEGORY:  
WASTEWATER MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>LAND APPLICATION OF SLUDGE</b></p> <p><b>WA.105. General</b></p> <p><b>WA.105.1.RI.</b> Land application sites must operate under an Order of Approval (CRIR 12 190 008(7)(A) and (B))) [Revised March 1998].</p> <p><b>WA.105.2.RI.</b> Sludge used for land application must meet metals limits (CRIR 12 190 008(10)(A)) [Added March 1998].</p> <p><b>WA.105.3.RI.</b> Sludge used for land application must be applied at specific rates (CRIR 12 190 008(10)(B)) [Added March 1998].</p> <p><b>WA.105.4.RI.</b> Land application must not exceed cumulative loading rates (CRIR 12 190 008(10)(C)) [Added March 1998].</p> <p><b>WA.105.5.RI.</b> Sludge to be land applied must be treated for vector and pathogen reduction (CRIR 12 190 008(10)(D)) [Added March</p>	<p>Verify that an Order of Approval is obtained for each land application site.</p> <p>Verify that the site is operated at all times in accordance with the Order of Approval and the completed Application for an Order of Approval.</p> <p>(NOTE: This requirement does not apply to a site where Class A Biosolids is land applied.)</p> <p>Verify that sludge intended for land application meets the limits established in Appendix 12-4 or metals and is tested for the listed characteristics.</p> <p>Verify that all sludge intended for land application is applied at an annual rate not to exceed the amount necessary to supply adequate available nitrogen for crop production using good agricultural or silvicultural practices, or not to exceed the maximum annual rates recommended by the U.S. Department of Agriculture to achieve fertilizer benefits and soil improvement.</p> <p>Verify that the maximum amount of sludge applied to a land application site is calculated using the procedure established in Appendix 12-5</p> <p>(NOTE: The amount of metals in the soil must be deducted from each calculation.)</p> <p>Verify that sludge intended for application is treated by one of the Processes to Significantly Reduce Pathogens and one of the vector attraction reduction requirements (see the definitions in the <i>Wastewater Management</i> chapter in the U.S. TEAM Guide).</p>

COMPLIANCE CATEGORY: WASTEWATER MANAGEMENT Rhode Island Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 1998
1998].	Verify that sludge intended for land application does not meet the criteria for hazardous waste
<b>WA.105.6.RI.</b> Access to land applied sludge and products grown on that land must be restricted (CRIR 12 190 008(10)(E) through (H)) [Added March 1998].	<p>Verify that food crops with harvested parts that touch the sewage sludge/soil mixture and are totally above the land surface are not harvested for 14 mo after application of sewage sludge.</p> <p>Verify that food crops with harvested parts below the surface of the land are not harvested for 20 mo after application of sewage sludge when the sewage sludge remains on the land surface for 4 mo or longer prior to incorporation into the soil.</p> <p>Verify that food chain crops with harvested parts below the surface of the land are not harvested for 38 mo after application of sewage sludge when the sewage sludge remains on the land surface for less than 4 months prior to incorporation into the soil.</p> <p>Verify that food crops with harvested parts that do not touch the sewage sludge/soil mixture, feed crops and fiber crops are not harvested for 30 d after application of sewage sludge.</p> <p>Verify that turf grown on land where sewage sludge is applied is not harvested for 1 yr after the last application of sewage sludge has occurred when the harvested turf is placed on land with a high potential for public exposure or a lawn.</p> <p>Verify that there is no public access to a land application site until:</p> <ul style="list-style-type: none"> <li>- 1 yr has passed since the last application of sewage sludge to land with a high potential for public exposure, such as a park or ballfield, or</li> <li>- 30 days have passed since the last application of sewage sludge to land with a low potential for public exposure. such as private farmland.</li> </ul> <p>Verify that animals whose products are consumed by humans are not allowed to graze on land where sewage sludge is applied for 30 d after the last application of sewage sludge has occurred.</p>
<b>WA.105.7.RI.</b> Sludge must not be land applied on frozen ground (CRIR 12 190 008(10)(I)) [Added March 1998].	Verify that no sludge is applied to frozen, flooded or snow-covered ground unless appropriate erosion and runoff control measures are provided.
<b>WA.105.8.RI.</b> Land	Verify that there is a minimum of 2 ft of soil between the lowest level of applied

**COMPLIANCE CATEGORY:  
WASTEWATER MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p>application sites for sewage sludge must meet location restrictions (CRIR 12 190 008(10)(K) through (O)) [Added March 1998].</p>	<p>sludge and the highest water table level established during the seasonal high groundwater table period, and a minimum of 3 ft of soil between the highest level of bedrock and the lowest level of applied sludge.</p> <p>Verify that no sludge is land applied within 200 ft of any body of surface water.</p> <p>Verify that no sludge is applied to land within the watershed of any surface water used as a public drinking water supply.</p> <p>Verify that no sludge is land applied within 1000 ft of any private drinking water supply well or within the wellhead protection area for a public well.</p> <p>Verify that no sludge is land applied within 400 ft of any domestic, commercial or industrial structure not associated with the proposed land application project.</p> <p>Verify that no sludge is land applied within 100 ft of a property line (this requirement will be met if consent from the adjacent land owner is received).</p>
<p><b>WA.105.9.RI.</b> Vehicles used for transportation of sludge for land application must meet specific requirements (CRIR 12 190 008(10)(R)) [Added March 1998].</p>	<p>Verify that all sludge is transported in vehicles which are properly sealed, watertight and covered while in transit to prevent any leaking or dropping of sludge.</p>
<p><b>WA.105.10.RI.</b> Land application sites must meet closure requirements (CRIR 12 190 008(18)(B)) [Added March 1998].</p>	<p>Verify that the owner of a facility or a site notifies the Office of Water Resources in writing at least 30 days prior to the date the owner intends to close the facility or site.</p> <p>(NOTE: Before a facility or site will be considered closed, the Office of Water Resources will conduct a final investigation to determine compliance with the provisions of these rules and regulations and the approved operating plan.)</p>
<p><b>Sludge Composting</b></p>	
<p><b>WA.105.11.RI.</b> Sludge composting sites must meet general operating requirements (CRIR 12 190 008(12)(A)) [Added March 1998].</p>	<p>Verify that all sludge composting sites operate under an Order of Approval.</p> <p>Verify that all methods of sludge composting comply with the definitions of composting as a Process to Further Reduce Pathogens and meet one of the vector attraction reduction requirements (see the definitions in the <i>Wastewater Management</i> chapter of the U.S. TEAM Guide).</p>

<b>COMPLIANCE CATEGORY:</b> <b>WASTEWATER MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY</b> <b>REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
	Verify that any co-composting of sludge and solid waste complies with rules and regulations under the Department's Office of Waste Management (see the <i>Solid Waste Management</i> chapter of this manual).

<b>COMPLIANCE CATEGORY:</b> <b>WASTEWATER MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<b>LAND APPLICATION OF SLUDGE</b>  <b>WA.120.</b> <b>Monitoring</b>  <b>WA.120.1.RI.</b> Land application sites must meet certain monitoring requirements (CRIR 12 190 008(9)(c)).	           (NOTE: The type and frequency of monitoring of surface water will be determined by the Director on a case-by-case basis and is the responsibility of the owner.)  Verify that groundwater monitoring of a type and frequency determined by the Director is conducted.



**COMPLIANCE CATEGORY:  
WASTEWATER MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>LAND APPLICATION OF SLUDGE</b></p> <p><b>WA.125. Recordkeeping and Reporting</b></p> <p><b>WA.125.1.RI.</b> POTWs and privately owned treatment works must meet reporting requirements (CRIR 12 190 008(6)(D) and (E)) [Added March 1998].</p>	<p>Verify that treatment works notify the Office of Water Resources in writing at least 90 d prior to any alteration or modification of the facility, change in the disposal, use or transportation practices of the facility, or other activity which may result in non-compliance with the rules and regulations for sewage sludge.</p> <p>Verify that the treatment works immediately notifies the Office of Water Resources of any substantial change in the volume or composition of sludge, composted sludge or treated sludge resulting from the introduction of pollutants into the facility.</p> <p>Verify that this notice includes information on the quantity and composition of sludge, composted sludge or treated sludge, the source of new pollutants or efforts made to discover the source and any impacts on utilization or disposal practices resulting from the change.</p>



**COMPLIANCE CATEGORY:  
WASTEWATER MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>SURFACE DISPOSAL OF SLUDGE</b></p> <p><b>WA.135. General</b></p> <p><b>WA.135.1.RI.</b> Sludge disposal sites must meet general operating requirements (CRIR 12 190 008(8)(A)) [Added March 1998].</p> <p><b>WA.135.2.RI.</b> Sludge disposal sites must meet location restrictions (CRIR 12 190 008(8)(B) through (F)) [Added March 1998].</p>	<p>(NOTE: This applies to the disposal of sludge, composted sludge or treated sludge by burial.)</p> <p>Verify that all applications for land disposal sites are in accordance with the design and operational requirements for solid waste landfills (see the <i>Solid Waste Management</i> chapter of this manual, section SO.135.RI.).</p> <p>Verify that all land disposal sites operate under an Order of Approval.</p> <p>Verify that sludge, composted sludge or treated sludge that is land disposed is treated by one of the Processes to Significantly Reduce Pathogens (see the definitions in the <i>Wastewater Management</i> chapter of the U.S. TEAM Guide).</p> <p>Verify that sludge, composted sludge or treated sludge that is land disposed does not meet the criteria for hazardous waste.</p> <p>Verify that there is a minimum of 5 ft of soil between the lowest level of deposited sludge, composted sludge or treated sludge and the highest water table level, and a minimum of 5 ft of soil between the highest level of bedrock and lowest level of deposited sludge, composted sludge or treated sludge.</p> <p>Verify that no sludge, composted sludge or treated sludge is land disposed within 200 ft of any body of surface water.</p> <p>Verify that no sludge, composted sludge or treated sludge is land disposed within 1200 ft from the center line of the following freshwater rivers: Ashaway River, Beaver River, Blackstone River, Chepachet River, Clear River, Falls River, Flat River, Hunt River, Moshassuck River, Moosup River, Narrow River, Pawcatuck River, Pascoag River, Pawtuxet River, and Wood River.</p> <p>Verify that no sludge, composted sludge or treated sludge is disposed of in the watershed of any surface water used as a public drinking water supply.</p> <p>Verify that no sludge, composted sludge or treated sludge is disposed within 1000 ft of any private drinking water supply well or within the wellhead protection area for a public well.</p>

<b>COMPLIANCE CATEGORY:</b> <b>WASTEWATER MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
	<p>Verify that no sludge, composted sludge or treated sludge is disposed within 600 ft of any domestic, commercial or industrial structure not associated with the proposed land disposal site.</p> <p>Verify that no sludge, composted sludge or treated sludge is disposed within 200 ft of a property line.</p> <p>(NOTE: This applies to the disposal of sludge, composted sludge or treated sludge by burial.)</p>
<p><b>WA.135.3.RI.</b> Sludge disposal sites must meet erosion control requirements (CRIR 12 190 008(8)(H)) [Added March 1998].</p>	<p>Verify that the land disposal site, including the fill surface, is graded and provided with a drainage system to minimize surface water runoff onto and into the fill, to drain off rain water falling on the fill and to prevent the collection of standing water.</p> <p>(NOTE: This applies to the disposal of sludge, composted sludge or treated sludge by burial.)</p>
<p><b>WA.135.4.RI.</b> Vehicles used for transportation of sludge for disposal must meet specific requirements (CRIR 12 190 008(8)(I)) [Added March 1998].</p>	<p>Verify that all sludge, composted sludge or treated sludge is transported in vehicles which are properly sealed, watertight and covered while in transit so as to prevent any leaking or dropping of sludge, composted sludge or treated sludge.</p> <p>(NOTE: This applies to the disposal of sludge, composted sludge or treated sludge by burial.)</p>
<p><b>WA.135.5.RI.</b> Sludge at land disposal sites must meet cover requirements (CRIR 12 190 008(8)(J)) [Added March 1998].</p>	<p>Verify that a soil cover of at least 6 in. is applied to all sludge, composted sludge or treated sludge deposits daily to control disease vectors and nuisance conditions.</p> <p>Verify that final cover in terminating the use of a disposal site is 2 ft in depth.</p> <p>(NOTE: This applies to the disposal of sludge, composted sludge or treated sludge by burial.)</p>
<p><b>Co-Disposal of Sludge and Solid Waste</b></p>	
<p><b>WA.135.6.RI.</b> The co-disposal of sludge at solid waste landfills must meet</p>	<p>(NOTE: This applies to the disposal of sludge, composted sludge or treated sludge by burial at a solid waste landfill approved for the disposal of solid waste</p>

**COMPLIANCE CATEGORY:  
WASTEWATER MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
specific requirements (CRIR 12 190 008(16)(A), (C), (D), (E)) [Added March 1998].	<p>by the Department.)</p> <p>Verify that a solid waste landfill where sludge, composted sludge, or treated sludge is disposed operates under an Order of Approval.</p> <p>Verify that all sludge, composted sludge or treated sludge intended for disposal at a solid waste landfill is treated by one of the Processes to Significantly Reduce Pathogens (see the definitions in the <i>Wastewater Management</i> chapter of the U.S. TEAM Guide).</p> <p>Verify that sludge, composted sludge or treated sludge intended for disposal at a solid waste landfill does not meet the criteria for hazardous waste.</p> <p>Verify that a soil cover of at 6 in. is applied to all sludge, composted sludge or treated sludge deposits daily to control disease vectors and nuisance conditions.</p> <p>Verify that all sludge, composted sludge or treated sludge is transported in vehicles which are properly sealed, watertight and covered while in transit so as to prevent any leaking or dropping of sludge, composted sludge or treated sludge.</p>



<b>COMPLIANCE CATEGORY:</b> <b>WASTEWATER MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<b>SURFACE DISPOSAL OF SLUDGE</b>  <b>WA.145.</b> <b>State Specific Requirements</b>  <b>WA.145.1.RI.</b> Ocean disposal of sludge is prohibited (CRIR 12 190 008(17)) [Added March 1998].  <b>WA.145.2.RI.</b> Land disposal sites must meet closure requirements (CRIR 12 190 008(18)(A)) [Added March 1998].	<p>Verify that there is no discharge or disposal of sludge, composted sludge or treated sludge into the waters of the State.</p> <p>Verify that the owner of a land disposal site notifies the Office of Water Resources in writing within 90 days prior to the date the owner intends to close the site.</p> <p>Verify that the notification provides that the owner will physically remove all materials on site, or the owner will abide by the closure plan, including the post-closure monitoring and financial provisions, as submitted on the application and approved by the Office of Water Resources.</p> <p>(NOTE: This applies to the disposal of sludge, composted sludge or treated sludge by burial.)</p>



## Appendix 12-1

### Minimum Design Requirements for Individual Sewage Disposal Systems

(Source: CRIR 12 120 003 (3.01) and (3.02))

The maximum days' flow is estimated by multiplying flow (according to the following table) by the maximum design capacity of the building. Consideration will be given to maximum sewage flow estimates derived from actual records of water consumption kept at comparable establishments.

Type of Establishment	Gallons/Person/Day
Single residence (two persons per bedroom)	75
Multiple family dwelling units (two persons per bedroom)	75
Multiple family dwelling units (Elderly housing) (two persons per bedroom)	60
Rooming House	40
Hotel or boarding house	50
Nursing Home	100
Rest Home	75
School without cafeteria, gymnasium, or showers	10
School with cafeteria, but no gymnasium or showers	15
School with cafeteria, gymnasium, and showers	20
Boarding school or college	80
Motel	40
Motel -- efficiency units	50
Public institution other than a hospital	100
Public picnic park -- toilet wastes only	5
Public park with bathhouse, showers, and flush toilets	15
Swimming pools or other bathing place	15
Marina (per boat)	25
Camp (day) -- toilets (add 3 gal per capita per meal if any served)	15
Camp (overnight)	35
Restaurant, single services (per table seat or counter seat)	35
Restaurant (per table seat or counter seat)	70
Restaurant, banquet hall, toilet, and kitchen wastes (per patron)	10
Restaurant, throughway service area (per table seat or counter seat)	350
Factory or industrial plant without cafeteria (per person)	15
Factory or industrial plant with cafeteria (per person)	20
Office Building	15
Drive-in-theater -- (per stall)	5
Theater -- (per person)	3
Auditorium or hall -- (per person)	3
Gymnasium (per spectator)	3
Gymnasium (per participant)	15
Service station (with public restrooms)	500
Cocktail Lounge, bar (per seat)	20
Bowling alley -- (per alley)	200
Hospital (per bed)	200
Country club (per person at maximum use) (Exclusive of food service and bar)	25
Fellowship Hall (per seat)	6
Barber Shop (per chair)	100
Beauty Parlor (per booth)	200
Dental Office (minimum three persons per chair)	500
Mobile Home (exceeding 8 ft wide and 32 ft long) (using individual toilets)	75

Type of Establishment	Gallons/Person/Day
(minimum 450)	
Trailers (not exceeding 8 ft wide and 32 ft long) (recreational vehicles using individual toilets) (per day per space)	200
Central Service Building (Toilet-Shower-Lavatories)	
Serving recreational vehicles/trailers (per day per space)	140
Dumping Station (for recreational vehicle/trailer park without individual water and sewer connections) (per day per space)	50
Laundromat	Discharge to ISDS prohibited

NOTE: When separate treatment systems are to be installed, the following proportions should be used unless there is definite data available as to the exact distribution of flow: toilet and bath facilities and kitchen wastes 80 percent of total flow; laundry wastes 20 percent of total flow for single family residences.

## Appendix 12-2

### Minimum Distances for Individual Sewage Disposal Systems (Source: CRIR 12 120 003 (3.05))

The horizontal distances between the parts of an individual sewage disposal system and the items listed in the following table shall not be less than those shown.

	Minimum Distances				
	Dosing Tank Septic Tank (ft)	Distribution Box Trench, Bed or Chambers (ft)	Disposal Seepage Pit (ft)	Building Sewer (ft)	Privy (ft)
Private well{f}	75{i}	100{h}	200{h}	50{a}	50
Water supply line (pressure){b}	10	25	25	10	25
Water supply line (suction)	30	40	40	25	40
Property Line	10	10	10	10	30
Dwelling	5	15{c}	20	3	30
Surface drinking water, supplies or tributaries, including storm and subsurface drains, that discharges thereto	200	200	200	200	200
Watercourse{e}	50	50	50	25	50
Subsurface drains, foundation drains, storm drains	25	25	50	25{a}	25
Edge of any land at a level lower than the invert of the distribution line{d}	10	25	25	25	10{d}
Public drinking water supply well	400	400	400	400	400

**Notes:**

- {a} Distance may be reduced when the building sewer consists of extra heavy case iron pipe or equal with tight joints.
- {b} Disposal facilities shall be installed as far away possible from water supply lines. Where sewer lines must cross water supply lines, they should be constructed of durable, corrosion -- resistant material with watertight joints and either the sewer line or the water line shall be sleeved for a distance of at least 25 ft in either direction, and whenever possible sewer lines should be laid below water supply lines at crossings. Pressurized sewer lines are not allowed to cross water supply lines.
- {c} Distance may be reduced to 8 ft with a foundation slab, or in cases where the invert of the seepage system is lower than any portion of the cellar.
- {d} Where fill is required and where it is necessary to fill beyond the boundary of the subject property to meet the requirements of these regulations, no approval will be granted unless the adjoining property owner(s) have given a permanent legal release (easement, etc.) filed in the land evidence records of the municipality granting such right to the owner of the owner of the applicant property. A copy of such right of access and use shall be attached to the application. Where filling is not possible, the distance may be reduced to 15 ft by the variance procedure outlined in SD 20.00, where a lined, reinforced concrete solid retaining wall is provided on no more than two sides. Such retaining wall shall have a proper footing, be reinforced with rods and have a plastic lining at least 6 mil thick. Designs for retaining walls must demonstrate that the wall will not alter the groundwater flow in such a way as to cause a system failure.

- {e} In case of nontidal waters, the distance shall be measured from the yearly high water mark. In case of tidal waters, the distance shall be measured from the maximum water elevation during a solstice (moon) tide. Current data for the determination of solstice (moon) tide elevations has been compiled and is available upon request. Where an individual sewage disposal system will be located in the proximity of the active ocean on sites subject to erosion caused by coastal storm, the minimum setback requirement from the solstice moon tide elevation to the edge of the system shall not be less than 150 ft.
- {f} Distances may be increased at the discretion of the director for the disposal of sewage for any system serving other than an individual dwelling.
- {g} Any variance from the specified distances may be made after consultation between the Department of Environmental Management and the Department of Health.
- {h} Any chamber deeper than 2 ft from the invert or any depth of stone greater than 2 ft below the invert shall be prohibited for commercial sewage disposal where wells are used for drinking water, unless permitted by the Underground Injection Control (UIC) Program of the Groundwater Section.

### Appendix 12-3

#### Class A Biosolids Limits

(Source: CRIR 12 190 008, Appendix 7) [Added March 1998]

Metal	Limit, mg/kg (dry weight)
Arsenic	41
Cadmium	39
Chromium	1200
Copper	1500
Lead	300
Mercury	17
Molybdenum	75
Nickel	420
Selenium	36
Zinc	2800

The following pathogen limit must be met:

Pathogen	Limit
Fecal Coliform Bacteria	Less than 1000 Most Probable Number per 1 gram of total solids (dry weight)



#### Appendix 12-4

**Class B Biosolids Limits**  
(Source: CRIR 12 190 008, Appendix 8)

Metal	Limit, mg/kg (dry weight)
Arsenic	75
Cadmium	85
Chromium	3000
Copper	4300
Lead	840
Mercury	57
Molybdenum	75
Nickel	420
Selenium	100
Zinc	7500

#### Characteristics

Ratio of Sludge to Bulking Agent (if applicable)  
Density of Compound Sludge (if applicable)  
Moisture Content (%)  
Total Volatile Solids (%)  
Ammonia Nitrogen (%)  
Nitrate Nitrogen (%)  
Total Nitrogen (%)  
Available Phosphoric Acid (%)  
Soluble Potash (%)  
Specific Conductivity  
pH



## Appendix 12-5

### Maximum Cumulative Loading Rates

(Source: CRIR 12 190 008, Appendix 9) [Added March 1998]

Metal	Dry Tons/Acre
Arsenic	41 kg As/hectare ----- (    ppm As) x 0.002
Cadmium	39 kg Cd/hectare ----- (    ppm Cd) x 0.002
Chromium	3000 kg Cr/hectare ----- (    ppm Cr) x 0.002
Copper	1500 kg Cu/hectare ----- (    ppm Cu) x 0.002
Lead	300 kg Pb/hectare ----- (    ppm Pb) x 0.002
Mercury	17 kg Hg/hectare ----- (    ppm Hg) x 0.002
Nickel	420 kg Ni/hectare ----- (    ppm Ni) x 0.002
Selenium	100 kg Se/hectare ----- (    ppm Se) x 0.002
Zinc	2800 kg Zn/hectare ----- (    ppm Zn) x 0.002

The parts per million of each metal are provided in the sludge, composted sludge or treated sludge analyses.

The lowest value is chosen from the above 9 calculations as the maximum cumulative tons of sludge, composted or treated sludge which can be applied per acre.



## SECTION 13

### WATER QUALITY MANAGEMENT

Rhode Island Supplement, March 1998

This section covers the state requirements for Water Quality Management and is intended to supplement the U.S. TEAM Guide. Refer to the U.S. TEAM Guide and the DOD Component Supplements for Federal, DOD, and service-specific requirements.

Regulations controlling the supply, treatment and distribution of public drinking water is provided in the Code of Rhode Island Rules (CRIR) 14 180 003. Although the state of Rhode Island has not incorporated the Federal Safe Drinking Water Act (40 CFR 141), CRIR 14 180 003 is similar in both content and context. Specific exceptions and additions to the Federal Safe Drinking Water Act are included in the checklist.

As with the Federal regulations, Rhode Island's Rules and Regulations Pertaining to Public Drinking Water, codified at CRIR 14 180 003, apply to any public water system unless a public water system meets all of the following conditions:

- the system consists only of distribution or storage facilities (and does not have any collection or treatment facilities)
- the system obtains all of its water from a public water system to which these regulations apply
- the system does not sell water to any person.

#### Definitions

- *Certified Laboratory* - an analytical laboratory licensed by the Rhode Island Department of Health under Chapter 16.2 Laboratories, to perform biological, microbiological, chemical or radiochemical examination of potable water or a laboratory exempt from this law as provided for in 23-16.2-3 but which shall be certified by the state Certification Official in accordance with 40 CFR 1422.10b (CRIR 14 180 003.1).
- *Class I Wells* - wells used by generators of hazardous waste or owners or operators of hazardous waste management facilities to inject hazardous waste beneath the lowermost formation containing, within 1/4 mi of the well bore, an underground source of drinking water, or other industrial and municipal disposal wells which inject fluids beneath the lowermost formation containing, within 1/4 mi of the well bore, an underground source of drinking water (CRIR 12 190 015.11).
- *Class II Wells* - wells that inject fluids which are brought to the surface in connection with conventional oil or natural gas production and may be commingled with wastewaters from gas plants which are an integral part of production operations, unless those waters are classified as a hazardous waste at the time of injection for enhanced recovery of oil or natural gas; and for storage of hydrocarbons which are liquid at standard temperature and pressure (CRIR 12 190 015.11).
- *Class III Wells* - wells that inject for extraction of minerals including:
  1. mining of sulfur by the Frasch process
  2. in situ production of uranium or other metals; this category includes only in situ production from ore bodies which have not been conventionally mined. Solution mining of conventional mines such as stopes leaching is included in Class V
  3. solution mining of salts or potash (CRIR 12 190 015.11).
- *Class IV Wells* - used by generators of hazardous waste or of radioactive waste, by owners or operators of hazardous waste management facilities, or by owners or operators of radioactive waste disposal sites to dispose of hazardous waste or radioactive waste into a formation which within 1/4 mile of the well, contains an underground

source of drinking water or wells used by generators of hazardous waste or of radioactive waste, by owners or operators of hazardous waste management facilities, or by owners or operators of radioactive waste disposal sites to dispose of hazardous waste or radioactive waste above a formation which, within 1/4 mi of the well, contains an underground source of drinking water or wells used by generators of hazardous waste or owners or operators of hazardous waste management facilities to dispose of hazardous waste, which cannot be classified as wells used to dispose of hazardous waste into or above a formation which contains an aquifer (CRIR 12 190 015.11).

- *Class V Wells* - wells which include:
  1. cesspools or other devices that receive wastes, which have an open bottom and sometimes have perforated sides
  2. dry wells used for the injection of wastes into a subsurface formation
  3. septic system wells used to inject the waste or effluent from a multiple dwelling, business establishment, community, or regional business establishment septic tank; or for a multiple dwelling, community or regional cesspool
  4. air-conditioning return flow wells used to return to the supply aquifer the water used for heating or cooling in a heat pump
  5. cooling water return flow wells used to inject water previously used for cooling
  6. drainage wells used to drain surface fluid, primarily storm runoff, into a subsurface formation
  7. recharge wells used to replenish the water in an aquifer
  8. salt water intrusion barrier wells used to inject water into a fresh water aquifer to prevent the intrusion of salt water into the fresh water
  9. sand backfill wells used to inject a mixture of water and sand, mill tailings, or other solids into mined out portions of subsurface mines
  10. subsidence control wells (not used for the purpose of oil or natural gas production) used to inject fluids into a non oil or gas producing zone to reduce or eliminate subsidence associated with the overdraft of freshwater
  11. wells used for the storage of hydrocarbons which are gases at standard temperature and pressure
  12. geothermal wells used in heating and aquaculture
  13. nuclear disposal wells (CRIR 12 190 015.11).
- *Contaminant* - any physical, chemical, biological, or radiological substance or matter in water which impairs its intended or feasible use. For purposes of these Rules and Regulations, contaminants shall include pollutants (CRIR 12 100 006.7) [Added March 1998].
- *Cultural Eutrophication* - the human-induced acceleration of primary productivity in a surface waterbody resulting in nuisance conditions of algal blooms and/or dense macrophytes (CRIR 12 190 001.7) [Added March 1998].
- *Degradation* - a deterioration or decline in groundwater quality (CRIR 12 100 006.7) [Added March 1998].
- *Designated Uses* - are those uses specified in water quality standards for each waterbody or segment whether or not they are being attained. In no case shall assimilation or transport of pollutants be considered a designated use (CRIR 12 190 001.7) [Added March 1998].
- *Director* - the Director of the Rhode Island Department of Health or his duly authorized agent (CRIR 14 180 003.1).
- *Discharge to Groundwater* - the intentional, negligent, accidental, or other release of any pollutant onto or beneath the land surface, in a location where it is likely to enter the groundwater of the state (CRIR 12 100 006.7) [Added March 1998].
- *Effluent* - liquid that is discharged from a facility (CRIR 12 100 006.7) [Added March 1998].

- *Emergency Response* - any action undertaken immediately following the discovery of a release in order to completely or partially contain, clean up or treat the released material to prevent an immediate and/or substantial threat or risk of acute or chronic adverse effect on human health or to prevent an immediate and/or substantial significant adverse impact to the environment (CRIR 12 100 006.7) [Added March 1998].
- *Existing Use* - those designated uses and any other uses that do not impair the designated uses and that are actually attained in a waterbody on or after November 28, 1975; except that in no case shall assimilation or transport of pollutants be considered an existing use (CRIR 12 190 001.7) [Added March 1998].
- *Facility* - any building, structure and operation, including land or appurtenances thereto, on one contiguous site (CRIR 12 190 001.7) [Added March 1998].
- *Filter Pack* - the sand, gravel, or both placed in direct contact with the well screen (CRIR 12 100 006.7) [Added March 1998].
- *Freshwater* - those waters of the State in which the natural level of salinity is equal to or less than one part per thousand, 95 percent or more of the time (CRIR 12 190 001.7) [Added March 1998].
- *Groundwater* - water found underground which completely fills the open spaces between particles of sediment and within rock formations (CRIR 12 100 006.7) [Added March 1998].
- *Groundwater Quality Classification* - the categorization of groundwater as usable for particular purposes on the basis of its physical, chemical, and hydrogeologic characteristics; also, the particular class (GAA, GA, GB, or GC) assigned to a particular volume of groundwater within specific geographic boundaries (CRIR 12 100 006.7) [Added March 1998].
- *Groundwater Quality Standards* - concentrations of specific chemical, biological, and radiological constituents and/or narrative statements which describe the quality of groundwater which shall be met in a particular groundwater quality classification (CRIR 12 100 006.7) [Added March 1998].
- *Hazardous Material* - any material or combination or mixture of materials containing any hazardous substance in an amount and concentration such that when discharged to groundwater will or may reasonably be expected to cause acute or chronic adverse effects on human health or the environment. Hazardous material shall also include any material that contains a hazardous waste (CRIR 12 100 006.7) [Added March 1998].
- *High Quality Waters* - include all Class A and SA surface waters as well as other surface waters whose quality exceeds the minimum water quality criteria for any State aquatic life and/or human health criteria or water quality standards assigned to them, or whose quality and characteristics make them critical to the propagation or survival of important living natural resources; or those waters constituting a Special Resource Protection Water or an Outstanding National Resource Water (CRIR 12 190 001.7) [Added March 1998].
- *Large Water System* - a water system that serves more than 50,000 people (CRIR 14 180 003.1).
- *Low Quality Waters or Degraded* - any water whose quality falls below any of the criteria of rule 8.D. in accordance with Applicable Conditions of rule 8.E. and corresponding to its classification as designated in rule 8.C. [of CRIR 12 190 001.8], as determined by the Director, shall be considered degraded for that particular criterion and in violation of its water quality standards and, therefore, unsatisfactory for any designated uses which the Director determines are affected by the particular criterion which is violated. Waters in their natural hydraulic condition may fail to meet their assigned water quality criteria from time to time due to natural causes, without necessitating the modification of assigned water quality standard. Such waters will not be considered to be violating their water quality standards if violations of criteria are due solely to naturally occurring conditions unrelated to human activities (CRIR 12 190 001.7) [Added March 1998].

- *Medium-Size Water System* - a water system that serves greater than 3300 and less than or equal to 50,000 people (CRIR 14 180 003.1).
- *Natural Background Conditions* - all prevailing dynamic environmental conditions in a waterbody or segment thereof, other than those human-made or human-induced (CRIR 12 190 001.7) [Added March 1998].
- *No Discharge Area/Zone* - an area of the surface waters of the state which has been requested by the Director of the Department of Environmental Management and declared by the United States Environmental Protection Agency, pursuant to Section 312 of the Clean Water Act, to be an area in which any discharge of sewage from vessels is prohibited (CRIR 12 190 001.7) [Added March 1998].
- *Non-Attainment* - groundwater, designated by the Director, that has pollutant concentrations greater than the groundwater quality standards for the classification (CRIR 12 100 006.7) [Added March 1998].
- *Point of Compliance* - any location, described by depth and/or distance from a facility, at which the groundwater quality is sampled to determine whether a preventive action limit or groundwater quality standard is met as a result of activities occurring at such facility (CRIR 12 100 006.7) [Added March 1998].
- *Pollutant* :
  1. any material or effluent which may alter the chemical, physical, biological, or radiological characteristics and/or integrity of water, including but not limited to, dredged spoil, solid waste, incinerator, residue, sewage, garbage, sewage, sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, cellar dirt or industrial, municipal, agricultural, or other waste or material, petroleum or petroleum products, including but not limited to oil (CRIR 12 100 006.7) [Added March 1998]
  2. any dredged material, solid waste, incinerator residue, sewage, garbage, sewage sludge, sediment, filter backwash, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, industrial or municipal or agricultural waste or effluent, petroleum or petroleum products, including but not limited to oil; or any material which will likely alter the physical, chemical, biological or radiological characteristics and/or integrity of water (CRIR 12 190 001.7) [Added March 1998].
- *Pollution* - the human-made or human-induced alteration of the physical, chemical, biological or radiological characteristics and/or integrity of water (CRIR 12 190 001.7) [Added March 1998].
- *Preventive Action Limit* - a specified percentage of a numerical groundwater quality standard (CRIR 12 100 006.7) [Added March 1998].
- *Release* - any spilling, leaking, pumping, pouring, emitting, emptying, injecting, escaping, leaching, dumping, or disposing of any pollutant onto or below the land surface. For purposes of these Rules and Regulations, release also includes any storage, disposal, or abandonment of any substance or material in a manner which presents a substantial threat of release as herein defined (CRIR 12 100 006.7) [Added March 1998].
- *Remediation* - prevention and control of pollutant migration to, within, or from the groundwater and/or the removal of a pollutant from the groundwater (CRIR 12 100 006.7) [Added March 1998].
- *Residual Zone* - a departmentally designated, three-dimensional zone within which the pollutant concentrations remaining in the groundwater after remediation activities are allowed to be greater than the groundwater quality standards (CRIR 12 100 006.7) [Added March 1998].
- *Seawater (Saltwater)* - those waters of the State in which the natural level of salinity is equal to or greater than ten (10) parts per thousand, 95 percent or more of the time (CRIR 12 190 001.7) [Added March 1998].

- *Site* - the land or water area where any facility or activity is physically located or conducted, including adjacent land used in connection with the facility or activity (CRIR 12 190 001.7) [Added March 1998].
- *Small Water System* - a water system that serves 3300 persons or fewer (CRIR 14 180 003.1).
- *Water Purveyor* - any person who owns or operates a public water system (CRIR 14 180 003.1).
- *Water Quality Criteria* - elements of the State water quality standards, expressed as constituent concentrations, levels, or narrative statements, representing a quality of water that supports a particular use (CRIR 12 190 001.7) [Added March 1998].
- *Water Quality Limited Waters* - any segment of a surface waterbody where the water quality does not meet applicable water quality standards, and is not expected to meet applicable water quality standards, even after the application of the technology-based effluent limitations required by Sections 301(b) and 306 of the Act (CRIR 12 190 001.7) [Added March 1998].
- *Water Quality Standard* - provisions of State or Federal law which consist of a designated use(s) and water quality criteria for the waters of the State. Water Quality Standards also consist of an antidegradation policy (CRIR 12 190 001.7) [Added March 1998].



**WATER QUALITY MANAGEMENT  
GUIDANCE FOR RHODE ISLAND CHECKLIST USERS**

**REFER TO CHECKLIST ITEMS:**

State Requirements for Water Systems	WQ.5.1.RI. through WQ.5.6.RI.
Public Water Systems	
General	WQ.10.1.RI. through WQ.10.10.RI.
Community Water Systems	
Standards	WQ.35.1.RI. and WQ.35.2.RI.
Monitoring/Sampling	WQ.40.1.RI. through WQ.40.3.RI.
Notification and Reporting Requirements	WQ.45.1.RI.
Noncommunity Water Systems	
Standards	WQ.60.1.RI.
Monitoring/Sampling	WQ.65.1.RI. and WQ.65.2.RI.
Monitoring/Sampling	WQ.75.1.RI.
Drinking Water Wells	WQ.90.1.RI. and WQ.90.4.RI.
Injection Control Wells	WQ.110.1.RI. and WQ.110.2.RI.
Water Quality Standards	
Groundwater Quality	WQ.115.1.RI. through WQ.115.5.RI.
Surface Water Quality	WQ.115.6.RI. and WQ.115.7.RI.

**GUIDANCE FOR APPENDIX USERS**

**REFER TO APPENDIX NUMBERS:**

**REFER TO APPENDIX TITLES:**

13-1	Numerical Groundwater Quality Standards and Preventive Action Limits for Class GAA and Class GA
13-2	Class-Specific Criteria: Fresh Waters
13-3	Class-Specific Criteria: Sea Waters



**COMPLIANCE CATEGORY:  
WATER QUALITY MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>WQ.5. STATE REQUIREMENTS FOR WATER SYSTEMS</b></p> <p><b>WQ.5.1.RI.</b> Water suppliers who supply more than 50,000,000 gal of water per year are required to have a clean water infrastructure replacement plan (CRIR 14 180 008.2.1, 4.2. 5.1, 5.3 and 5.4) [Revised March 1998].</p>	<p>Verify that water suppliers who supply, obtain, transport, distribute, purchase, and/ or sell on a wholesale or retail basis, more than 50,000,000 gal of water per year have an infrastructure replacement plan.</p> <p>Verify that all principal components of the water system, such as sources, reservoirs, dams, spillways, intakes, treatment plants, pump stations, storage facilities, pumping and well equipment, are listed and evaluated.</p> <p>Verify that six copies of the clean water infrastructure plan are filed with the Division of Drinking Water Quality of the Department of Health.</p> <p>Verify that plans are reviewed and updated at a minimum frequency of every five years.</p> <p>(NOTE: Major modifications or revisions to the infrastructure replacement plan will be submitted for review more frequently as necessary.)</p> <p>Verify that the plan is implemented as approved.</p> <p>(NOTE: On-site review of facility components may be conducted by the Department when appropriate and/or applicable. The responsible official of the water supply system will be required to verify that construction expenditures are consistent with the plan.)</p>
<p><b>WQ.5.2.RI.</b> Water suppliers who obtain, transport, purchase, or sell more than 50,000,000 gal of water per year are required to have a water supply management plan (CRIR 12 200 001.6 and 11.2, and 11.3) [Revised March 1998].</p>	<p>Verify that suppliers who obtain, transport, purchase, or sell more than 50,000,000 gal of water per year have a water supply management plan.</p> <p>Verify that the plan is updated at least once every 5 yr.</p> <p>Verify that all water suppliers file a copy of all plans and amendments with:</p> <ul style="list-style-type: none"> <li>- the Division of Water Supply Management of the Department of Environmental Management or its successor</li> <li>- the Division of Drinking Water Quality of the Department of Health</li> <li>- the Division of Planning of the Department of Administration</li> <li>- the Public Utilities Commission or Chief Administrator of the Division of Public Utilities and Carriers if the water supplier is regulated by the Public Utilities Commission</li> <li>- an additional copy of all plans and amendments must be submitted to the</li> </ul>

**COMPLIANCE CATEGORY:  
WATER QUALITY MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>WQ.5.3.RI.</b> Public water supply facility design plans and specifications must be prepared by a Rhode Island professional engineer and approved by the Director (CRIR 14 180 003.4.1 and 4.3).</p> <p><b>WQ.5.4.RI.</b> Public water supply systems must be approved by the Director (CRIR 14 180 003.2.2).</p> <p><b>WQ.5.5.RI.</b> Public water supply systems must be licensed (CRIR 14 180 003.2.3).</p> <p><b>WQ.5.6.RI.</b> Operators of public water supplies must be certified (CRIR 14 180 009.4) [Revised March 1998].</p>	<p>Division of Water Supply Management of the Department of Environmental Management for the purpose of maintaining one copy available for public review.</p> <p>(NOTE: The Department will coordinate review of the plans, and may require changes.)</p> <p>Verify that no new water treatment works, water storage, or pumping facilities are constructed, or existing ones substantially altered, until design plans and specifications prepared by a Rhode Island professional engineer have been approved by the Director.</p> <p>Verify that no new water treatment works, water storage, or pumping facilities are constructed, nor existing ones substantially altered, until a plan for operation and maintenance of the facility has been approved by the Director.</p> <p>Verify that all revisions to approved plans are submitted to the Director for approval.</p> <p>Verify that the public water supply system has Director approval.</p> <p>Verify that the water supply system has a valid license to operate issued by the Director.</p> <p>(NOTE: Licenses are issued on an annual basis.)</p> <p>Verify that public water supply systems using surface water or groundwater under the direct influence of surface water, and any community water supply serving greater than 500 persons are under the supervision of a superintendent or assistant superintendent who holds a certificate equal to the grade or classification of the water supply treatment facility.</p> <p>Verify that each operator in charge of a shift at a public water supply system using surface water or groundwater under the direct influence of surface, or of any community water supply serving greater than 500 persons, holds a certificate no less than one grade below the classification of the treatment facility.</p>

**COMPLIANCE CATEGORY:  
WATER QUALITY MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
	<p>Verify that all operators employed at a public water supply system using surface water or groundwater under the direct influence of surface, or at any community water supply serving greater than 500 persons, is certified to at least the lowest grade of treatment plant operation certification within a year of hire.</p> <p>(NOTE: The term "operator" as used here refers only to personnel whose primary responsibility is to operate, maintain, repair, replace or install components of a water supply treatment facility. "Operator" does not apply to an official exercising only general administrative supervision of engineering design duties, such as the city engineer or an elected water commissioner, or clerical or administrative workers involved only in activities such as customer relations, billing, payroll, time keeping, etc.)</p>



**COMPLIANCE CATEGORY:  
WATER QUALITY MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> Revised March 1998
<p><b>PUBLIC WATER SYSTEMS</b></p> <p><b>WQ.10. General</b></p> <p><b>WQ.10.1.RI.</b> [Moved to WQ.5.RI. March 1998]</p> <p><b>WQ.10.2.RI.</b> [Moved to WQ.5.RI. March 1998]</p> <p><b>WQ.10.3.RI.</b> [Moved to WQ.5.RI. March 1998]</p> <p><b>WQ.10.4.RI.</b> Newly constructed public water systems, and additions to existing systems, must be flushed and disinfected prior to being placed in use (CRIR 14 180 003.4.2).</p> <p><b>WQ.10.5.RI.</b> Chemicals or equipment which comes into contact with drinking water must meet certain standards (CRIR 14 180 003.4.1.a).</p> <p><b>WQ.10.6.RI.</b> Public water systems may use bottled water or non-centralized treatment</p>	<p>Verify that all newly constructed public water systems or additions to existing systems are flushed, adequately disinfected, and the water examined for the presence of coliform organisms.</p> <p>Verify that no system is placed in use until the examination discloses the absence of coliform organisms.</p> <p>(NOTE: Any waste water resulting from disinfection must be disposed of properly and with proper permits.)</p> <p>Verify that any chemical or substance added to a public water supply, any materials used in the manufacture of public water supply components or appurtenances, or any pipe, storage tank, valve, fixture or other materials which come in contact with water intended for use in a public water supply meets American National Standards Institute/NSF International standards, specifically ANSI/NSF Standard 60-1988 and ANSI/NSF Standard 61-1991.</p> <p>Verify that public water systems do not use bottled water or point-of-use devices to achieve compliance with an MCL, except on a temporary basis to avoid an</p>

**COMPLIANCE CATEGORY:  
WATER QUALITY MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: Revised March 1998</b>
<p>devices to meet MCLs only under specific conditions (CRIR 14 180 003.4.4 and 4.5).</p>	<p>unreasonable risk to health, and only with prior approval of the Director.</p> <p>(NOTE: When bottled water is used, the public water system is fully responsible for the provision of sufficient quantities of bottled water to every person supplied by the public water system. The water system must use an approved bottled water supply.)</p> <p>Verify that public water systems use point-of-entry devices to comply with maximum contaminant levels only if they are approved by the Director.</p> <p>(NOTE: It is the responsibility of the public water system to operate and maintain the point-of-entry treatment system.)</p> <p>Verify that the public water system develops and obtains the Director's approval for a monitoring plan before point-of-entry devices are installed for compliance.</p> <p>(NOTE: Under the plan approved by the Director, point-of-entry devices must provide health protection equivalent to central water treatment. Equivalent means that the water meets all MCLs and is of acceptable quality similar to water distributed by a well-operated central treatment plant.)</p>
<p><b>WQ.10.7.RI.</b> Connections between a public water system and any other water supply must be registered and approved (CRIR 14 180 003.7) [Revised March 1998].</p>	<p>Verify that all existing or proposed connections between the PWS and any other water supply are registered with the Director.</p> <p>Verify that there are no physical connections joining a public water system with any other water system, unless approved by the Director.</p>
<p><b>WQ.10.8.RI.</b> Persons maintaining a public water supply system must report unsafe conditions (CRIR 14 180 003.10.2).</p>	<p>Verify that any person maintaining a water system notifies the Director immediately if he becomes aware:</p> <ul style="list-style-type: none"> <li>- of an unsafe condition</li> <li>- the water is not safe</li> <li>- the water is subject to contamination.</li> </ul>
<p><b>WQ.10.9.RI.</b> Laboratories which conduct water quality analyses must be certified (CRIR 14 180 003.12).</p>	<p>Verify that analyses are carried out by the Department of Health or in a laboratory certified by the Department of Health, USEPA, or by reciprocity with another state with the exception of turbidity, pH, temperature, and residual disinfectant concentration determinations, which is carried out by a party approved by the Director.</p>

<b>COMPLIANCE CATEGORY:</b> <b>WATER QUALITY MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>Revised March 1998</b>
<b>WQ.10.10.RI.</b> New water sources must be approved by the Director (CRIR 14 180 003.3) [Added March 1998].	Verify that no source of water is developed for a public water system until a site plan prepared by a professional engineer or land surveyor registered in Rhode Island has been approved by the Director.



**COMPLIANCE CATEGORY:  
WATER QUALITY MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>COMMUNITY WATER SYSTEMS</b></p> <p><b>WQ.35. Standards</b></p> <p><b>WQ.35.1.RI.</b> Community water systems must not exceed the MCL for nickel (CRIR 14 180 003.16.1).</p>	<p>Verify that the water supply system complies with the MCL for nickel of 0.1 mg/L.</p>



**COMPLIANCE CATEGORY:  
WATER QUALITY MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: Revised March 1998</b>
<p><b>COMMUNITY WATER SYSTEMS</b></p> <p><b>WQ.40. Monitoring/Sampling</b></p> <p><b>WQ.40.1.RI.</b> Community water systems must sample and analyze for sodium (CRIR 14 180 003.16.1.r).</p> <p><b>WQ.40.2.RI.</b> Community water systems are to monitor for endrin once every 3 yr (CRIR 14 180 003.16.2.a.15) [Citation Revised March 1998].</p>	<p>Verify that each community water system samples each of its active sources at the entry point of the source into the distribution system, following any treatment provided.</p> <p>Verify that surface water sources are sampled during the months of January, February, and March of each calendar year.</p> <p>(NOTE: Six consecutive biweekly samples may be composited into a single sample. Compositing is done at the laboratory.)</p> <p>Verify that groundwater sources are sampled annually during the months of March or April.</p> <p>Verify that results are reported to the Director within 10 days after determination.</p> <p>Verify that when the result of any sample equals or exceeds a sodium level of 100 mg/L, measured as sodium, the water purveyor initiates a public notice within 14 days.</p> <p>Verify that each active drinking water source maintained by a water purveyor is analyzed for endrin at least once every 3 yr.</p>



**COMPLIANCE CATEGORY:  
WATER QUALITY MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>COMMUNITY WATER SYSTEMS</b></p> <p><b>WQ.45.</b> <b>Notification and Reporting Requirements</b></p> <p><b>WQ.45.1.RI.</b> Community water systems must meet specific notification requirements when monitoring requirements are not met or a variance is granted (CRIR 14 180 003.16.8.b and c) [Revised March 1998].</p>	<p>Verify that any community water system notifies persons served by the system when it:</p> <ul style="list-style-type: none"> <li>- fails to perform monitoring of unregulated contaminants (those listed in WQ.40.7 in the TEAM Guide)</li> <li>- fails to perform any other monitoring requirement of these regulations</li> <li>- fails to comply with a testing procedure established in these regulations</li> <li>- is subject to an exemption or variance respecting a maximum contaminant level or any treatment technique requirement applicable to a national primary drinking water regulation.</li> </ul> <p>Verify that notification is performed within 3 mo of the violation or variance or exemption by publication in a daily or weekly newspaper of general circulation in the area served by the system.</p> <p>(NOTE: The content of this notice must be approved by the Director.)</p> <p>Verify that the owner or operator of the public water system gives notice at least once every 3 mo by mail delivery or by hand delivery for as long as the variance or violation exists.</p> <p>Verify that each time a public notice is issued by a water purveyor, a copy is submitted to the Director within 10 days of issuance.</p>



<b>COMPLIANCE CATEGORY:</b> <b>WATER QUALITY MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<b>NONCOMMUNITY WATER SYSTEMS</b>  <b>WQ.60.</b> <b>Standards</b>  <b>WQ.60.1.RI.</b> Non-community water systems must not exceed the MCL for nickel (CRIR 14 180 003.17.2) [Citation Revised March 1998].	Verify that the non-community water supply system complies with the MCL for nickel of 0.1 mg/L.



**COMPLIANCE CATEGORY:  
WATER QUALITY MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> March 1998
<p><b>NONCOMMUNITY WATER SYSTEMS</b></p> <p><b>WQ.65.</b> <b>Monitoring/Sampling</b></p> <p><b>WQ.65.1.RI.</b> Non- community water systems are to monitor for endrin once every 3 yr (CRIR 14 180 003.17.3) [Citation Revised March 1998].</p> <p><b>WQ.65.2.RI.</b> Non- community water systems must determine nitrate concentrations be determined annually (CRIR 14 180 003.17.2.b).</p>	<p>Verify that each active drinking water source maintained by a water purveyor is analyzed for endrin at least once every 3 yr.</p> <p>Verify that the nitrate concentration of each active drinking water source maintained by a water purveyor is determined annually.</p>



**COMPLIANCE CATEGORY:  
WATER QUALITY MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: Revised March 1998</b>
<p><b>NONCOMMUNITY WATER SYSTEMS</b></p> <p><b>WQ.75. Notification and Reporting Requirements</b></p> <p><b>WQ.75.1.RI.</b> Non-community water systems must meet specific notification requirements when monitoring requirements are not met or a variance is granted (CRIR 14 180 003.17.6.b) [Added March 1998].</p>	<p>Verify that a non-community water system notifies persons served by the system when it:</p> <ul style="list-style-type: none"> <li>- fails to perform monitoring of unregulated contaminants (those listed in WQ.40.7 in the TEAM Guide)</li> <li>- fails to perform any other monitoring requirement of these regulations</li> <li>- fails to comply with a testing procedure established in these regulations</li> <li>- is subject to an exemption or variance respecting a maximum contaminant level or any treatment technique requirement applicable to a national primary drinking water regulation.</li> </ul> <p>Verify that notification is performed within 3 mo of the violation or variance or exemption by publication in a daily or weekly newspaper of general circulation in the area served by the system</p> <p>(NOTE: The content of this notice must be approved by the Director.)</p> <p>Verify that the owner or operator of the public water system gives notice at least once every 3 mo by mail delivery or by hand delivery for as long as the variance or violation exists.</p>



**COMPLIANCE CATEGORY:  
WATER QUALITY MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>WQ.90. DRINKING WATER WELL</b></p> <p><b>WQ.90.1.RI.</b> Persons who construct, alter, or abandon a drinking water well must be registered with the Department (CRIR 12 100 004.4.01 and 4.04).</p> <p><b>WQ.90.2.RI.</b> Persons who construct, alter, or abandon a well must submit a well completion report to the Department (CRIR 12 100 004.6.01).</p> <p><b>WQ.90.3.RI.</b> Wells must meet location restrictions (CRIR 12 100 004.7.01.A, B and E) [Citation Revised March 1998].</p> <p><b>WQ.90.4.RI.</b> Wells must meet requirements for abandonment and temporary</p>	<p>Verify that anyone who constructs, alters, or abandons a well has been registered as a well contractor by the Department.</p> <p>Verify that anyone who installs a well pump has a pump installers certificate, or has been registered as a pump installer by the Department.</p> <p>(NOTE: These regulations will not, however, restrict a plumber or electrician from engaging in the trade for which he has been licensed.)</p> <p>Verify that, upon completion of construction, alteration, or abandonment of a well, the well driller submits a well completion report to the Department.</p> <p>Verify that the report is submitted within 15 working days of the completion of the well and includes the results of a 5-hr pump test.</p> <p>Verify that the following minimum distances from a source of contamination to a well are maintained:</p> <ul style="list-style-type: none"> <li>- distribution box and septic tank: 75 ft</li> <li>- sewage disposal field: 100 ft</li> <li>- sewer line: 50 ft</li> <li>- road: 50 ft</li> <li>- fuel storage tanks: located as far as possible from wells.</li> </ul> <p>Verify that wells are not located within 100 ft of livestock pens or animal waste storage facilities and a 20-ft wide distance is maintained between a well and active agricultural areas.</p> <p>Verify that the well is located in an area where it is not subject to damage from vehicles and similar hazards.</p> <p>Verify that any well to be temporarily removed from service is capped with a watertight seal, watertight welded steel cap, or threaded cap.</p>

<b>COMPLIANCE CATEGORY:</b> <b>WATER QUALITY MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
abandonment (CRIR 12 100 004.9.01 and 9.02.K) [Added March 1998].	<p>(NOTE: In the event that temporary abandonment is to be of 90 days or less, the temporary steel cap may be welded to the well casing with a minimum of 4 separate welds, evenly spaced, each at least 1/2 in. in length. Steel or cast iron caps must be at least 3/16 in. in thickness.)</p> <p>Verify that plugging and abandoning of a well to be abandoned are performed only by a licensed well driller.</p>

<b>COMPLIANCE CATEGORY:</b> <b>WATER QUALITY MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> <b>March 1998</b>
<b>WQ.110.</b> <b>INJECTION CONTROL</b> <b>WELLS</b>	
<b>WQ.110.1.RI.</b> Class I, II, III, and IV underground injection wells are prohibited (CRIR 12 190 015.5.01) [Citation Revised March 1998].	<p>Verify that there are no Class I, II, III, or IV underground injection wells in operation.</p>
<b>WQ.110.2.RI.</b> Installations/ CW facilities must have Orders of Approval from the Director prior to working on an underground injection well (CRIR 12 190 015.6).	<p>Verify that no person injects fluid into the ground without an Order of Approval from the Director of the Department of Environmental Management.</p> <p>Verify that no person installs, constructs, alters, or repairs any injection well without written approval of the plans and specifications of the work from the Director.</p> <p>Verify that no person disposes of fluid through other means of subsurface disposal without an Order of Approval from the Director.</p> <p>Verify that no person installs, constructs, alters, repairs any subsurface disposal system used to dispose of waste of a non-domestic nature without written approval of the plans and specifications of the work from the Director.</p>



**COMPLIANCE CATEGORY:  
WATER QUALITY MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>WQ.115. WATER QUALITY STANDARDS</b></p> <p><b>Groundwater Quality</b></p> <p>WQ.115.1.RI. Installations/ CW facilities must not cause a violation of groundwater quality standards (CRIR 12 100 006.8.01) [Added March 1998].</p> <p>WQ.115.2.RI. Installations/ CW facilities must not pollute groundwater (CRIR 12 100 006.8.02 through 8.05, and 8.10) [Added March 1998].</p> <p><b>WQ.115.3.RI.</b> Specific pollutant limits for certain groundwaters must not be violated (CRIR 12 100 006.10.02 and 10.03) [Added March 1998].</p>	<p>Verify that the installation/CW facility does not person violate the groundwater quality standards of the state of Rhode Island.</p> <p>Verify that there is no discharge of any pollutant to groundwater without the approval of the Director.</p> <p>Verify that there are no actions that cause groundwater designated non-attainment to be further degraded.</p> <p>Verify that facilities are not operated or maintained in a manner that is likely to result in a discharge of any pollutant to groundwater without the approval of the Director.</p> <p>Verify that there are no discharges of hazardous materials to the groundwaters of the state.</p> <p>Verify that underground storage tanks in new locations are not installed within the wellhead protection area of community water supply wells.</p> <p>(NOTE: This prohibition does not apply to the replacement or upgrading of existing underground storage tanks installed prior to 1 July 1991 provided that it takes place in accordance with all applicable state and Federal regulations.)</p> <p>Verify that there are no pollutants in groundwater classified GAA or GA, except within an approved discharge zone or residual zone, in any concentration which will adversely affect the groundwater as a source of potable water or which will adversely affect other beneficial uses of the groundwater.</p> <p>(NOTE: The numerical groundwater quality standards and the preventive action limits for specific substances in class GAA and class GA are listed in Appendix</p>

<b>COMPLIANCE CATEGORY:</b> <b>WATER QUALITY MANAGEMENT</b> <b>Rhode Island Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> March 1998
<b>WQ.115.4.RI.</b> Installations/ CW facilities that violate groundwater quality standards must notify the Department (CRIR 12 100 006.14.02 through 14.07) [Added March 1998].	13-1.)  Verify that groundwater classified GB and GC is of a quality which the Director determines does not: <ul style="list-style-type: none"> <li>- threaten public health and/or the environment</li> <li>- violate or have a substantial likelihood to cause a violation of surrounding groundwater quality standards</li> <li>- adversely impact or have a substantial likelihood to adversely impact:               <ul style="list-style-type: none"> <li>- current or proposed uses of the facility</li> <li>- current or proposed uses of groundwater and surface water at or within the facility boundaries</li> <li>- current and future uses of surrounding property, groundwater and surface water</li> </ul> </li> <li>- violate or have any reasonable potential to cause a violation of surface water quality standards.</li> </ul>
	Verify that installations/CW facilities that discharge to groundwater or have had a discharge or release to groundwater notify the Department when: <ul style="list-style-type: none"> <li>- a preventive action limit has not been met at any point of compliance at a facility that has a discharge to groundwater approved by DEM where the groundwater is classified GAA or GA</li> <li>- a groundwater quality standard has not been met at any point of compliance at a facility in any groundwater classification</li> <li>- an alternative notification level established under a groundwater monitoring program approved by the Director has not been met</li> <li>- the facility owner or operator has reasonable cause to believe that a discharge or release has occurred which may result in the violation of a preventive action limit and/or groundwater quality standard.</li> </ul> <p>(NOTE: Persons reporting spills of chemical and/or petroleum products to the Department pursuant to the immediate notification requirements of other state or Federal laws and regulations are exempt from provisions of this Rule.)</p> <p>Verify that notification is made to the Department in writing within 15 days after discovery of the occurrence requiring notification.</p> <p>Verify that the notification includes:</p> <ul style="list-style-type: none"> <li>- name, address, telephone number of person notifying the Department and of the facility owner or operator</li> <li>- date and time of the discovery and the circumstances surrounding the discovery of the occurrence requiring notification</li> <li>- groundwater classification of the site</li> <li>- location of the occurrence and a legal description of the site (plat and lot)</li> </ul>

**COMPLIANCE CATEGORY:  
WATER QUALITY MANAGEMENT  
Rhode Island Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS: March 1998</b>
<p><b>WQ.115.5.RI.</b> Installations/ CW facilities that exceed a preventive action limit or groundwater quality standard must take specific actions (CRIR 12 100 006.15.01 and 15.02) [Added March 1998].</p>	<ul style="list-style-type: none"> <li>- concentration of the pollutants identified in the groundwater (when applicable)</li> <li>- identification of the pollutants in the discharge or release (when applicable)</li> <li>- initial determination of the source of the pollutants and an estimate of the extent of pollution</li> <li>- measures taken or proposed to be taken at the time of notification.</li> <li>- a statement signed by the facility owner or operator, or an authorized representative, that is responsible for the preparation and submittal of the notification certifying, to the best of their knowledge, that the notification is complete and accurate.</li> </ul> <p>Verify that when a preventive action limit has not been met, the installation/CW facility takes actions (subject to the approval of the Director), to meet the following objectives at the point of compliance:</p> <ul style="list-style-type: none"> <li>- minimize the concentration of the pollutant in the groundwater where technically and economically feasible</li> <li>- regain and maintain compliance with the preventive action limit (unless the Director determines that it is not technically or economically feasible to attain the preventive action limit concentration, in which case the owner or operator shall achieve compliance with the lowest possible concentration that is technically and economically feasible)</li> <li>- ensure that the groundwater quality standard is met at any point of compliance.</li> </ul> <p>Verify that when a groundwater quality standard has not been met, the installation/CW facility takes actions (subject to the approval of the Director), to regain and maintain compliance with the groundwater quality standard at the point of compliance.</p>
<p><b>Surface Water Quality</b></p> <p><b>WQ.115.6.RI.</b> Installations/ CW facilities must not cause a violation of groundwater quality standards (CRIR 12 190 001.9.A and C) [Added March 1998].</p>	<p>Verify that the installation/CW facility does not discharge pollutants into any waters of the State, or perform any activities alone or in combination which the Director determines will likely result in the violation of any State water quality criterion or interfere with one or more of the existing or designated uses assigned to the receiving waters or to downstream waters.</p> <p>Verify that the installation/CW facility does not discharge pollutants into any waters of the State, or perform any activities alone or in combination which the Director determines will likely result in the additional degradation of water quality of the receiving waters or downstream waters which are already below the</p>

**COMPLIANCE CATEGORY:**  
**WATER QUALITY MANAGEMENT**  
Rhode Island Supplement

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b> March 1998
<p><b>WQ.115.7.RI.</b> Installations/CW facilities must not pollute surface water (CRIR 12 190 001.8.D) [Added March 1998].</p>	<p>water quality standard assigned to such waters.</p> <p>Verify that the installation/CW facility does not discharge pollutants into any waters of the State, or perform any activities alone or in combination which the Director determines will likely result in a violation of the antidegradation provisions.</p> <p>Verify that, at a minimum, all surface waters are free of pollutants in concentrations or combinations or from anthropogenic activities subject to these regulations that:</p> <ul style="list-style-type: none"> <li>- adversely affect the composition of fish and wildlife</li> <li>- adversely affect the physical, chemical, or biological integrity of the habitat</li> <li>- interfere with the propagation of fish and wildlife</li> <li>- adversely alter the life cycle functions, uses, processes and activities of fish and wildlife</li> <li>- adversely affect human health.</li> </ul> <p>Verify that all surface waters are free from pollutants in concentrations or combinations that:</p> <ul style="list-style-type: none"> <li>- settle to form deposits that are unsightly, putrescent, or odorous to such a degree as to create a nuisance, or interfere with the existing or designated uses</li> <li>- float as debris, oil, grease, scum or other floating material attributable to wastes in amounts to such a degree as to create a nuisance or interfere with the existing or designated uses</li> <li>- produce odor or taste or change the color or physical, chemical or biological conditions to such a degree as to create a nuisance or interfere with the existing or designated uses</li> <li>- result in the dominance of species of fish and wildlife to such a degree as to create a nuisance or interfere with the existing or designated uses.</li> </ul> <p>Verify that the level of radioactive materials in surface waters is not in concentrations or combinations which will likely be harmful to humans, fish and wildlife, or result in concentrations in organisms producing undesirable conditions.</p> <p>Verify that nutrients do not exceed the limitations specified in Appendix 13-2 or Appendix 13-3, or more stringent site-specific limits necessary to prevent or minimize accelerated or cultural eutrophication.</p>

**Appendix 13-1**  
**Numerical Groundwater Quality Standards and Preventive Action Limits for Class GAA and Class GA**  
 (Source: CRIR 12 120 006.10, Table 1) [Added March 1998]

Substance	Groundwater Quality Standard	Preventive Action Limit
	(milligrams per liter, except as noted)	
<i>Inorganic Chemicals</i>		
Antimony	0.006	0.003
Arsenic	0.05	0.025
Asbestos	7 million fibers/l	3.5 million fibers/l
Barium	2	1
Beryllium	0.004	0.002
Cadmium	0.005	0.0025
Chromium (total)	0.1	0.05
Cyanide	0.2	0.1
Fluoride	4	2
Lead	0.015	0.0075
Mercury	0.002	0.001
Nickel	0.1	0.05
Nitrate (as N)	10	5
Nitrite (as N)	1	0.5
Nitrate/Nitrite (total)	10	5
Selenium	0.05	0.025
Thallium	0.002	0.001
<i>Organic Chemicals</i>		
Adipate (diethylhexyl)	0.4	0.2
Alachlor	0.002	0.001
Aldicarb (Temik)	0.010	0.005
Atrazine	0.003	0.0015
Benzene	0.005	0.0025
Benzo(a)pyrene	0.0002	0.0001
Carbofuran	0.04	0.02
Carbon Tetrachloride	0.005	0.0025
Chlordane	0.002	0.001
2,4-D	0.07	0.035
Dalapon	0.2	0.1
Di(2-ethylhexyl)adipate	0.4	0.2
Di(2-ethylhexyl)phthalate	0.006	0.003
Dibromochloropropane (DBCP)	0.0002	0.0001
Dichlorobenzene o-	0.6	0.3
Dichlorobenzene m-	0.6	0.3
Dichlorobenzene p-	0.075	0.0375
Dichloroethane (1,2-)	0.005	0.0025

Substance	Groundwater Quality Standard	Preventive Action Limit
	(milligrams per liter, except as noted)	
Dichloroethylene (1,1-)	0.007	0.0035
Dichloroethylene (cis-1,2-)	0.07	0.035
Dichloroethylene (trans-1,2-)	0.1	0.05
Dichloromethane	0.005	0.0025
Dichloropropane (1,2-)	0.005	0.0025
Dinoseb	0.007	0.0035
Diquat	0.02	0.01
Endothall	0.1	0.05
Endrin	0.0002	0.0001
Ethylbenzene	0.7	0.35
Ethylene dibromide (EDB)	0.00005	0.000025
Glyphosate	0.7	0.35
Heptachlor	0.0004	0.0002
Heptachlor epoxide	0.0002	0.0001
Hexachlorocyclopentadiene	0.05	0.025
Lindane	0.0002	0.0001
Methoxychlor	0.04	0.02
Methyl tertiary butyl ether (MTBE)	0.04	0.02
Monochlorobenzene	0.1	0.05
Naphthalene	0.02	0.01
Oxamyl (Vydate)	0.2	0.1
Pentachlorophenol	0.001	0.0005
Picloram	0.5	0.25
Polychlorinated biphenyls (PCBs)	0.0005	0.00025
Simazine	0.004	0.002
Styrene	0.1	0.05
2,3,7,8-TCDD (Dioxin)	3E-08	1.5E-08
Tetrachloroethylene	0.005	0.0025
Toluene	1	0.5
Toxaphene	0.003	0.0015
2,4,5-TP (Silvex)	0.05	0.025
Trichlorobenzene (1,2,4)	0.07	0.035
Trichloroethane (1,1,1-)	0.2	0.1
Trichloroethane (1,1,2)	0.005	0.0025
Trichloroethylene (TCE)	0.005	0.0025
Trihalomethanes (total)	0.1	0.05
Vinyl Chloride	0.002	0.001
Xylenes	10	5
<b>Microbiological</b>		
Total Coliform Bacteria	zero	zero

Substance	Groundwater Quality Standard (milligrams per liter, except as noted)	Preventive Action Limit
<i>Radionuclides</i> Gross Alpha Particle Activity Gross Beta Particle Activity Radium 226 and Radium 228 combined	15 pCi/liter 4 mrem/yr 5 pCi/liter	7.5 pCi/liter 2 mrem/yr 2.5 pCi/liter

Note: The numerical groundwater quality standards in these Rules and Regulations are based primarily on the maximum contaminant levels promulgated by the Rhode Island Department of Health in the Rules and Regulations Pertaining to Public Drinking Water, January 1995, and amendments thereto. As additional or revised maximum contaminant levels are adopted by the Rhode Island Department of Health, the new or revised maximum contaminant levels are incorporated herein by reference as groundwater quality standards for class GAA and class GA.



## Appendix 13-2

### Class-Specific Criteria: Fresh Waters (Source: CRIR 12 190 001, Table 1) [Added March 1998]

Criterion	Class A*	Class B and B1	Class C
Dissolved oxygen	<p>Cold Water Fish Habitat -- Dissolved oxygen content of not less than 75 percent saturation, based on a daily average, and an instantaneous minimum dissolved oxygen concentration of at least 5 mg/l. For the period from October 1st to May 14<sup>th</sup> where in areas identified by the RI Division of Fish and Wildlife as cold water fish spawning areas the following criteria apply: For species whose early life stages are not directly exposed to the water column (ie., early life stages are intergravel), the 7 day mean water column dissolved oxygen concentration shall not be less than 9.5 mg/l and the instantaneous minimum dissolved oxygen concentration shall not be less than 8 mg/l. For species that have early life stages exposed directly to the water column, the 7 day mean water column dissolved oxygen concentration shall not be less than 6.5 mg/l and the instantaneous minimum dissolved oxygen concentration shall not be less than 5.0 mg/l..</p> <p>Warm Water Fish Habitat -- Dissolved oxygen content of not less than 60% saturation, based on a daily average, and an instantaneous minimum dissolved oxygen concentration of at least 5.0 mg/l. The 7 day mean water column dissolved oxygen concentration shall not be less than 6 mg/l.</p>		
Sludge deposits, solid refuse, floating solids, oils, grease, scum	None Allowable.	None Allowable.	None in such amounts that would impair any usages specifically assigned to this class.
Color and turbidity	None in such concentrations that would impair any usages specifically assigned to this class.	None in such concentrations that would impair any usages specifically assigned to this class. Turbidity not to exceed 10 NTU over natural background.	
Total Coliform bacteria (MPN/100 ml)	Not to exceed a geometric mean value of 100 and not more than 10% of the samples shall exceed a value of 500.	Not to exceed a geometric mean value of 1,000 and not more than 20% of the samples shall exceed a value of 2,400.	None in such concentrations that would impair any usages specifically assigned to this class.
Fecal Coliform	Not to exceed a geometric mean value of 20 and not more than 10% of the samples shall exceed a value of 200.	Not to exceed a geometric mean value of 200 and not more than 20% of the samples shall exceed a value of 500.	Not applicable.
Taste and odor	None other than of natural origin and none associated with nuisance algal species.	None in such concentrations that would impair any usages specifically assigned to this class nor cause taste or odor in edible portions of fish.	
pH (Standard Units)	----- 6.5 - 9.0 or as naturally occurs -----		
Temperature Increase	The temperature increase shall not raise the temperature of the receiving waters above		

Criterion	Class A*	Class B and B1	Class C
	the recommended limit on the most sensitive receiving water use nor cause the growth of undesirable or nuisance species of biota and in no case exceed 83 outside an established thermal mixing zone. In no case shall the temperature of the receiving water be raised more than 4 °F.		
Chemical constituents	<p>None in concentrations or combinations that could be harmful to humans or fish and wildlife for the most sensitive and governing water class use, or unfavorably alter the biota, or which would make the waters unsafe or unsuitable for fish and wildlife or their propagation, impair the palatability of same, or impair waters for any other existing or designated use. None in such concentrations that would exceed that Water Quality Criteria and Guidelines as found in Appendix B.</p> <p>The ambient concentration of a pollutant in a water body shall not exceed the Ambient Water Quality Criteria and Guidelines, (Appendix B) for the protection of aquatic organisms from acute or chronic effects, unless the criteria or guidelines are modified by the Director based on results of bioassay tests conducted in accordance with the terms and conditions provided in the RIDEM Site Specific Aquatic Life Water Quality Criteria Development Policy.</p>		
Nutrients	<p>Average Total Phosphorus shall not exceed 0.025 mg/l in any lake, pond, kettlehole or reservoir, and average Total P in tributaries at the point where they enter such bodies of water shall not cause exceedance of this phosphorus criteria, except as naturally occurs, unless the Director determines, on a site-specific basis, that a different value for phosphorus is necessary to prevent cultural eutrophication.</p> <p>None in such concentration that would impair any usages specifically assigned to said Class, or cause undesirable or nuisance aquatic species associated with cultural eutrophication, nor cause exceedance of the criterion of 10(a) above in a downstream lake, pond, or reservoir. New discharges of wastes containing phosphates will not be permitted into or immediately upstream of lakes or ponds. Phosphates shall be removed from existing discharges to the extent that such removal is or may become technically and reasonably feasible.</p>		

\* Class A water used for public drinking water supply may be subject to restricted recreational use by State and local authorities.

### Appendix 13-3

**Class-Specific Criteria: Sea Waters**  
(Source: CRIR 12 190 001, Table 2) [Added March 1998]

Criterion	Class SA	Class SB and SB1	Class SC
Dissolved Oxygen	Not less than 6.0 mg/l at any place or time, except as naturally occurs. Normal seasonal and diurnal variations which result in in situ concentrations above 6.0 mg/l not associated with cultural eutrophication will be maintained in accordance with the Antidegradation Implementation Policy.	Not less than 5 mg/l at any place or time, except as naturally occurs. Normal seasonal and diurnal variations which result in in situ concentrations above 5.0 mg/l not associated with cultural eutrophication will be maintained in accordance with the Antidegradation Implementation Policy.	
Sludge deposits, solid refuse, floating solids, oils, grease, scum	----- None allowable. -----		None in such amounts that would impair any usages specifically assigned to this class. Turbidity not to exceed 10 NTU over background.
Color and turbidity	None in such concentrations that would impair any usages specifically assigned to this class. Turbidity not to exceed 5 NTU over natural background.	None in such concentrations that would impair any usages specifically assigned to this class. Turbidity not to exceed 10 NTU over natural background.	
Total Coliform bacteria (MPN/100 ml)	Not to exceed a geometric mean MPN value of 70 and not more than 10% of the samples shall exceed an MPN of 330 for a 3-tube decimal dilution.	Not to exceed a geometric mean MPN value of 700 and not more than 10% of the samples exceed a value of 2,300.	None in such concentrations that would impair any usages specifically assigned to this class.
Fecal Coliform Bacteria (MPN/100 mL)	Not to exceed a geometric mean MPN value of 14 and not more than 10% of the samples shall exceed an MPN of 49 for a 3-tube decimal dilution.	Not to exceed a median geometric mean MPN value of 50 and not more than 100% [sic] of the samples exceed a value of 50.	None in such concentrations that would impair any usages specifically assigned to this class.
Taste and odor	None allowable except as naturally occurs.	None in such concentrations that would impair any usages specifically assigned to this class nor cause taste or odor in edible portions of fish or shellfish.	
pH (Standard Units)	6.5 - 8.5 but not more than 0.2 units outside of the normally occurring range.		
Temperature Increase	None except where the increase will not exceed the recommended limit on the most		

Criterion	Class SA	Class SB and SB1	Class SC
	sensitive receiving water use and in no case exceed 83 °F nor raise the normal temperature more than 1.6 °F, 16 June through September and not more 4 °F from October through 16 June. All measurements shall be made at the boundary of the such mixing zones as is found to be reasonable by the Director.		
Chemical Constituents	<p>a. None in concentrations that could be harmful to humans or fish and wildlife for the most sensitive and governing water class use, or unfavorably alter the biota, or which would make the waters unsafe or unsuitable for fish and wildlife or their propagation, impair the palatability of same, or impair the waters for any other existing or designated use. None in such concentrations that would exceed the Water Quality Criteria and Guidelines as found in Appendix B.</p> <p>b. The ambient concentration of a pollutant in a water body shall not exceed the RIDEM Ambient Water Quality Criteria &amp; Guidelines (Appendix B) for the protection of aquatic organisms from acute or chronic effects, unless the criteria or guideline is modified by the Director based on results of bioassay tests conducted in accordance with the terms and conditions provided in the RIDEM Site Specific Aquatic Life Water Quality Criteria Development Policy.</p>		
Nutrients	None in such concentrations that would impair any usages specifically assigned to said Class, or cause undesirable or nuisance aquatic species associated with cultural eutrophication. Shall not exceed site-specific limits if deemed necessary by the Director to prevent or minimize accelerated or cultural eutrophication. Total phosphorus, nitrates and ammonia may be assigned site-specific permit limits based on reasonable Best Available Technologies. Where waters have low tidal flushing rates, applicable treatment to prevent or minimize accelerated or cultural eutrophication may be required for regulated nonpoint source activities.		